

Project Report

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Developing a Methodology for Corpus-based Computer Game Studies

Isamar Carrillo Masso *Bangor University*

Abstract

Video games have become a huge success in contemporary pop culture, both as ludic devices and as narrative instruments. Because of their immense popularity they are also the didactic means in which a number of social constructs are spread and perpetuated. This is particularly true in the case of *Diablo* and *World of Warcraft*, two games produced by Blizzard Entertainment Inc. This study uses a hybrid method to study both games as texts, combining Fairclough's (2003) approach to critical discourse analysis and Corpus Linguistics. The main corpus was compiled by gathering texts about the characters in these two computer games, and their accompanying visual representations, from a) official Blizzard websites and b) user-edited websites and forums. Further data was gathered through the application of a questionnaire about male and female characters in these two games to fifty participants, and by playing each game and recording in-game interactions with non-playing characters and with other players. The linguistic data was examined using a concordancer, and then analysed following Fairclough's (2003) approach. The devised methodology places a strong emphasis in the correlation between linguistic and visual data. Through this correlation and analysis it was determined that there is a strong discourse of gender difference operating within these two games.

Keywords

corpora
gender
computer games
sociolinguistics
critical discourse
analysis (CDA)
game studies

1. Introduction

This article outlines the methodology used in a linguistic study of representations of female characters in the computer games *Diablo* (Blizzard Entertainment 1996, 2000, 2001) and *World of Warcraft* (WoW) (Blizzard Entertainment 2004, 2007), specifically answering the following three research questions:

1. How do the game makers of *Diablo* and *WoW* and their gamers use language and images to **represent** the female characters in the games?
2. How do these representations **differ** from the representation of male characters in these two games?
3. How do gamers **react** to these representations?

The challenge was to design a methodology that would yield a relevant amount of data (both quantitative and qualitative) while allowing detailed examination of subtle points. Furthermore, the method needed to be specifically made for computer game (CG) analysis, and particularly suited to the CG concerned.

1. A corpus is a collection of texts (Thomson 2007). Since computers can now handle large amounts of text, digital corpora have become popular tools for researchers in the area of linguistics and language learning. Project-specific corpora can be built to answer specific research questions (McEnery 1997, Thomson 2007). Because of this, the use of corpora has begun to spread from research in the area of applied linguistics into other fields, such as forensic linguistics (Coulthard and Johnson 2008).

A hybrid method combining text and image corpora¹ was decided on as the best approach to examine both linguistic and visual aspects of the two games. For the analysis, the approach to critical discourse analysis (CDA) described in Fairclough (2003) was deemed the most suitable at that time, thanks to its flexibility. Additionally, in order to avoid the trite mistake of many researchers in the field of CG analysis, an essential part of the methodology involves the recording of *the researcher's own gameplay*, which was needed and referred to during the analysis.

The purpose of this report is to explain the methodology designed for this project in full, and to justify the choices made during its design and application, whenever possible. As no methodology existed for the linguistic analysis of CGs, it was necessary to make decisions based on the very specific needs of this project, and taking into account this project's particular challenges. In a separate section, the drawbacks of this method and some possible modifications that might make the method more widely applicable will be discussed.

I shall begin by defining what CGs are, and what type of CG *Diablo* and *WoW* belong to. Then, I shall move on directly to describing the method. CGs are, in essence, software programs that allow a player to interface with another player or with the computer itself within a 'magic circle' (Huizinga 1955) – a special time, place and frame of mind for game playing (Salen and Zimmerman 2004: 92) through a computer-controlled set of rules, to experience play in one or more of its forms, all of them 'realistic', meaning that the 'world' offered by the game is internally consistent (Atkins 2003).

Both *Diablo* and *WoW* are generally categorized as role-playing games (RPGs). The main difference between the two is the number of players that can participate in each. In *Diablo*, up to eight players can play at the same time (each player from their own computer, with one computer acting as a server), which makes *Diablo* a (minimally) multiplayer, online RPG (or MORPG). *WoW* is a Massively Multiplayer Online RPG, or MMORPG (pronounced like 'morgue' [Kelly 2004]). This means that, technically speaking, all subscribers could be playing together at the same time. *WoW* has over nine million paying subscribers (Blizzard Official Website 2008), of whom roughly 40 per cent are hard core gamers who are connected to the server around the clock (Gamespot.com 2007; WorldofWarcraft.com 2008). This means you participate in the game along with millions of other players at the same time, although you might only share one server with about half a million (Kelly 2004).

The second most important difference has to do with the storyline. In *Diablo* the player has to move his/her avatar through a series of levels, completing a number of quests to obtain more weapons and eventually defeat what(ever) awaits them in the last battle level. The storyline is fairly linear, as players are consistently constricted in their choices to make them move ahead in the game. The player wins by finishing the last level. In the most difficult mode, avatars have only one life, meaning there are no second chances if the player makes a mistake.

In *WoW*, on the other hand, although there is some 'background history' and some in-game events that transform the landscape (and present the justification for each expansion) there is no in-game storyline as such. After designing an avatar, the game will generate a Full-Motion Video (FMV) introducing the player to the 'cultural' context of their avatar's race, class, guild and alignment, and to some instructions on how to play. As

players move through the *WoW* world, they gain experience points (XP) and improve. Players can complete quests to move ahead, but this is not essential or mandatory after a certain level. If they get 'killed' by another player (in-player versus player realms or PvP), a monster, creature or non-player character (NPC), there are several ways to be resurrected. There is no ultimate goal, and no way to 'win' the game.

Let us now proceed to explaining the methodology I designed to analyse these two games from a linguistic point of view.

2. Method of data collection

2.1 Building the corpus

The sources of data for the text corpus can be organized into the following categories:

- Blizzard-produced or Blizzard-approved websites
- Gamer-produced or gamer-edited websites
- Informational/advertorial material (online)
- Online forums
- Questionnaires answered by gamers

The first four categories will be discussed below. Then I shall move on to discuss the questionnaires.

It was clear from the outset that some research on CG in general, and *WoW* and *Diablo* in particular, would be necessary before starting. Sixty hours of web browsing were deemed sufficient from the allocated amount of time for this project. This would have the double importance of providing a starting point for data collection, and an overview of male and female characters in these games and their backgrounds.

The sixty hours of browsing produced literally dozens of articles, dedicated websites, official and unofficial sites, forums where the games were discussed, hundreds of websites that were related to CG in general, and a few hundred hits that related to *Diablo* and *WoW* in particular. The search was to initially give me a general feel for the way female characters were represented in both games by Blizzard Entertainment, and for the way gamers themselves reacted to these representations (which they showed through their fan artwork and forum posts).

It was then necessary to decide which websites would directly form part of the study as part of the corpus, which websites would be kept for reference, and which ones would be discarded. The criteria used to make the decision was simple: preference would be given to websites that obtained the highest number of hits (i.e., the most visited websites, such as YouTube); to websites that were 'official' or 'blizzard approved'; and, for fan-created websites, to those that had the most content and were updated the most often (a good example of this type of website would be *WoW-Wiki* and *Diablo-Wiki*).

To sum up, the collected online texts respond to the following criteria as controlled variables:

- Language: The sites were in English.
- Popularity: The sites chosen were the most popular ones regarding number of hits or subscribers.

- Availability: The sites' content must be available for use, or consent from the site's managers must be obtained.
- Target Audience: The sites' stated target audience was 'gamers in general'. Websites that addressed very specific gamer populations (such as GayGamers.com) were not taken into account, as it would have been impossible to obtain statistical data on this area, and it would have been tricky to attempt an 'educated guess' of what percentage of the corpus to devote to groups according to their sexual orientation, ethnicity, et cetera.
- Updates: The sites chosen were 'active' as opposed to 'defunct', meaning that the sites are open and continually updated.

Additionally, websites ('official' and 'unofficial') that could provide clear images (both in the form of screenshots and promotional material) were kept to form the 'backbone' of the image corpus.

For convenience's sake the online sources were divided into seven different categories: (1) *Diablo* – official websites, (2) *Diablo* – unofficial websites, (3) *Diablo* – user-edited websites, (4) *WoW* – official websites, (5) *WoW* – unofficial websites, (6) *WoW* – user-edited websites, and (7) News – news articles related to the two CGs' characters, or to female characters in CGs in general. Each category would become a sub-corpus.

Since AntCon, the free downloadable concordancer chosen for this project due to its ease of use and versatility, can only handle .txt files, I proceeded to convert the original sources into .txt files. The conversion was done by performing the simple operation of copying the text portions of each website into a separate text file, and assigning each file a code name that I could refer to.

Another sub-corpus, the image corpus, was saved in a different format. A PowerPoint file was created containing screenshots and downloaded images of each website visited. They were also subdivided into the same categories as the text corpus, with the result that each sub-corpus has an accompanying image sub-corpus.

WoW: Unofficial websites						
Code	Location	Site's name	Type	Accessed on	Words	Slide
NA	http://www.WoWwiki.com/Main_Page	WOW-WIKI	Gamer-edited	26.01.2008	NA	1
001_WOWG_WIKI_CG	http://www.WoWwiki.com/Class	WOW-WIKI	Gamer-edited	26.01.2008	2055	2
002_WOWG_WIKI_CLORE	http://www.WoWwiki.com/Class_lore	WOW-WIKI	Gamer-edited	26.01.2008	1515	3
003_WOWG_WIKI_RG	http://www.WoWwiki.com/Race	WOW-WIKI	Gamer-edited	26.01.2008	791	4

Table 1: Corpus Records Grid (small sample) WoW: Unofficial websites.

The purpose of dividing the sources into sub-corpora, instead of just creating one main corpus, was to be able to quickly determine the source of the material being analysed (through the code names given to each file) so as to relate the information the corpus provides to each of the research questions.

2.2 Questionnaire

In order to partially answer the third research question, I designed and applied a questionnaire (for the full version see Appendix) that contained questions about male and female characters in *WoW* and *Diablo*, with the purpose of learning how gamers perceived characters. The questionnaire was meant to complement the information obtained from online forum and fanart.

The questionnaire consisted of sixty questions, where participants were asked to write the first three adjectives that came to mind when thinking of each of the playable characters of *Diablo* and *WoW* (see example below). All subjects had to respond to the following criteria as controlled variables:

- Age: The respondents had to be 18 years old or older, to avoid ethics issues.
- English proficiency: The respondents were the students at an international school in Prague, the Czech Republic, or used English in their companies. They were all proficient in English and Czech (the two languages used in the questionnaires), and come from a variety of backgrounds.
- Familiarity with the games: All respondents had played *Diablo* or *WoW* for at least six months within the two years previous to this study.

The questionnaire was applied at an international school, and to bilingual employees at two state-owned companies: CEZ, and ČEB. This was done to maximize the number of returned questionnaires, as it was applied during class or work time kindly donated by the institutions.

The answers to the sixty returned questionnaires were put together in a .txt file as a sub-corpus, being careful to delete the questions so as to avoid false hits when using the concordancer.

Example 1: First questions for the questionnaire (bilingual version).

<i>Diablo 1 and Hellfire</i>
1. How would you describe the Warrior in <i>Diablo 1</i> ? Jak byste popsal(a) Válečníka/Warrior ve hře <i>Diablo 1</i> ?

2. How would you describe the Sorcerer in <i>Diablo 1</i> ? Jak byste popsal(a) Černokněžníka/Sorcerer ve hře <i>Diablo 1</i> ?

3. How would you describe the Rogue in <i>Diablo 1</i> ? Jak byste popsal(a) Vandráka/Rogue ve hře <i>Diablo 1</i> ?

2.3 Additional data collected: gameplay

One of the biggest mistakes in the area of CG analysis has been the fact that researchers have consistently drawn conclusions and made ‘analyses’ of games they have not played, either previously, or as a logical step within their methodology. In order to avoid this mistake, playing *Diablo* and *WoW* was planned for as part of the methodology. What follows now is a somewhat personal account of the experience of gameplay, its importance, and how it contributed to the analysis.

It was deemed sufficient to play each game for around sixty hours for this project. I had purposefully chosen to analyse two games I had not played before. The rationale for this was that I wanted to have an unbiased opinion of each CG, and to approach them as any new gamer would. Moreover, when dealing with issues of representation, I felt that analysing a game I had played before would remove the ‘shock factor’ of anything new, and would make it harder for me to really see any controversial elements in the representation of females, as, being used to them, I would probably have learned to ignore them and, instead, would have been focused on rules. In other words, I felt that my gameplay experience would be qualitatively different if the game was new for me than if it was a game I was used to playing.

In order to make sure I would be familiar with the moves and mechanics of the chosen games right from the beginning, though, I enlisted the help of some fellow gamers who had played *Diablo* and *WoW*, and asked them to recommend games that worked with a similar interface, so that I would be able to master that before playing for this project, and not be distracted by the commands themselves. They suggested third-person games like *Westwind* and *Age of Empires*, which have similar commands to *WoW* for moving characters, attacking enemies, and defending areas. I then played each of the games they suggested for a few hours – just enough for me to feel confident.

During the some 120 hours it took me to play both games long enough to gather significant amounts of data, I followed a rigid schedule of exercising, eating, drinking water, playing and taking notes. The reason is that both games, I found, are extremely absorbing, and otherwise I would have forgotten to eat (and found myself often reluctant to do so, if it implied leaving my screen). Fortunately, I had accounted for that time from the start, so I was able to both gather the necessary data (by taking screenshots and making notes on in-game events and text) and get myself immersed in the games enough to also see them from the point of view of someone who just played them.

Playing also allowed me to complete the corpus of in-game text found in sites like *WoW-Wiki* and *Diablo-Wiki*, and other official websites, as well as other text from dialogues with non-playing characters (NPC). This was done by taking screenshots of the dialogue bubbles that appear when speaking to an NPC, and then transcribing the information into a .txt file and adding into the corresponding corpus.

3. Method of text and image processing

As mentioned above, the concordancer chosen for this study was the free downloadable concordancer AntCon.3.2.0. It was downloaded and tested

1. 12 ers of Elune, Malev Shadowson, had already shown her competence in guarding Illidan before he was
 2. 13 in winning her regard. She remained dedicated to her craft above all else. When rumors began to c
 3. 14 inued freedom, has led the night elves to presume her dead. Naga This entry is also a categoryJump
 4. 15 first to bend the stolen powers to her will. with her decision a new order was born: the Blood Knight
 5. 16 body behind, that individual will manifest his or her dreamform, which normally looks and behaves m
 6. 17 d have revenge, no matter the cost. She abandoned her duties and continued to hunt Illidan until she
 7. 18 tives: Escort Arko'narin to where Lightforge and her equipment are being held, and then protect her
 8. 19 mply a matter of which twin would prove worthy in her eyes. Illidan redoubled his efforts at master
 9. 20 with her kindness, her laughter, her beauty, and her faith. His joy was dimmed only by the fact th
 10. 21 not relinquish the hunt. She and a small group of her followers pursued Illidan through the portal.
 11. 22 bow in Felwood to let her know what's happened to her friends. Description: But, as much as it pain
 12. 23 . Impulsively Illidan confronted Tyrande and told her he could no longer remain silent. He confessed
 13. 24 en rumors began to circulate that Jaina had given her heart to Prince Arthas Menethil, Kael'thas was
 14. 25 with guilt and self-doubt. Eventually he courted her; however, he had little success in winning her
 15. 26 at he had spoken too late. She had already chosen her intended, and it was not Illidan. Once again
 16. 27 nger-general of Silvermoon until Arthas converted her into undeath against her will. The queen claim
 17. 28 point over the years, he had fallen in love with her kindness, her laughter, her beauty, and her f
 18. 29 rwards, seek out Jessir Moonbow in Felwood to let her know what's happened to her friends. Descript
 19. 30 e years, he had fallen in love with her kindness, her laughter, her beauty, and her faith. His joy
 20. 31 Illidan until she at last followed him to Outland. Her lengthy absence from Azeroth, together with I
 21. 32 inevitably choose either Malfurion or Illidan as her mate. It was simply a matter of which twin wo
 22. 33 reality of Illidan's freedom, she could convince her mate to give his twin another chance. Once st
 23. 34

15. Figure 1: Part of KWIC search for the keyword 'her' in a WoW-related sub-corpus, as seen in the
 16. concordancer.

21. several times using different parts of the corpus, to make sure it was work-
 22. ing correctly.

23. By loading the different sub-corpora into the concordancer, so-called
 24. 'keyword in context' (KWIC) lines were obtained. KWIC lines show the
 25. words that surround the keyword. This type of search shows all the con-
 26. texts in which a given word appears, and is helpful to find out a word's
 27. most common collocates, that is, the words that most usually appear
 28. paired with another word.

29. For this study, the keywords included relevant terms such as 'he', 'she',
 30. 'him', 'her', 'his', 'hers', 'man', 'woman', as well as male and female char-
 31. acters' names. The purpose was to find out what words most often collo-
 32. cated with female and with male characters, respectively.

33. The results of all KWIC searches were recorded in a specially designed
 34. grid as in the sample below (table 2). The table shows the keyword (e.g.
 35. 'she') and below it shows the most usual collocates to the right of the word
 36. (e.g., verbs). In parenthesis the number of times a collocate is repeated in
 37. the corpus with the keyword is recorded.

38. Recorded in a slightly different way, the information can show the fre-
 39. quency of certain keywords within the text, and how this frequency com-
 40. pares to other keywords. For example, in table 3 (below) we can clearly
 41. see the difference between the number of times the female pronouns are
 42. used and the number of times the male pronouns are used, which gives an
 43. idea on how frequently a gender is mentioned in the game storyline, for
 44. example, in the texts that explain quests for players to do and in the town's
 45. 'gossip'.

46. The concordancer, then, provided information about what is 'cen-
 47. tral and typical' in the context in which the male and female charac-
 48. ters textually move and within the context of both the game and what
 49. we could term 'meta-ludic' texts, that is, texts about or in reference to
 50. the game but found in other media outside the magic circle of the

Frequency of singular pronouns and main collocates (verbs)	
She (193)	He (559)
is (28), can (22), has (19), will (18), must (6), should (3), understands (4), looks (3), dies (3), compensates (3), needs (2)	is (50), can (43), has (36), was (29), will (25), would (13), had (11), could (9), may (8), should (7), believes (8), said (5), uses (6), needs (5), must (5), became (5), commands (4), witnessed (3), wants (3), lives (4), attacks (3), unleash (2), walked (2), took (2), requires (2), possesses (2), reaches (2), identifies (2), drops (2), dies (2), continues (2), claimed (2), appears (2)
Other lexical collocates and unique (un-numbered) collocates	
She (193)	He (559)
skill (4), reality (4), combat (4), service (3), javelin (3), heart (3), damage (3), spellcaster (2), healer (2), grieves (2), weapon, walks, travels, summoned, substantial, studies, physically, progresses, muscles, mana, masterminded, intervened, inflicts, implored, house, hut, hatred ground gore, agreed, casts, army, becomes, attacks, carries, deadly, fires, expenses.	game (4), combat (4), skills (3), shield (3), reason (3), elder (3), opponents (2), monsters (2), knights (2), friend (2), damage (2), abilities (2), zealot, unparalleled, travels, transforming, trances, tormented, toxifies, tools, throws, thrashing, thinks, teleport, technique, struggle, strongest, stronger, selflessly, secrets, riddles, retains, resides, rescued, rapes, pets, paladin, open, noob(s), misery, minions, meaning, matter, master, loved, looked, lacks, kills, improves, faces, confesses, deals, battle

Table 2: Frequency of male and female pronouns in Diablo corpus (all corpora combined) and their main collocates.

Diablo							
Gamer sites and forums (concordance hits per lexical item)							
she	he	female	male	her	hers	his	him
68	281	5	2	82	1	162	97
warrior		sorcerer		rogue		amazon	
46		15		22		48	
barbarian		sorceress		druid		andariel	
37		25		45		6	
women		woman		man		men	
3		4		42		1	

Table 3: Example of number of hits per keyword in the gamer site and forum sub-corpus.

game. This was the first piece of the puzzle in the study of the gender representation.

The second piece was provided by the images found in in-game texts and in meta-ludic contexts. Due to the vast amount of images found in both, a random sample of images from each image corpus was obtained. In order to make objective as well as consistent, detailed and relevant observations on the sample pictures, a special grid was designed that would record the relevant information. The grid records features of the characters' appearance in a fashion that allows them to be easily compared to each other (from the same game or a different one), which helps the viewer organize the information in a way that will render it more useful, as well as eliminating as much subjectivity as possible from the use of the pictures.

A sample can be seen in table 4 below:

The grid provides qualitative information to complement the quantitative information provided by the corpus (both instruments, however, can provide qualitative and quantitative information, depending on how they are used). The two types of result, coupled with the additional information I obtained through the process gameplay, could then be analysed.

Character	Hair		Face		Build		Armour					
	S	N	Scars	Lines	M	L	Shoulders	Chest	Upper arms	Torso/midriff	Buttocks	Thighs
			Y	N	Y	N						
Warrior		X	X	X	X		X	X	O	X	X	X
Sorcerer		X	X	X			X	X	X	X	X	X
Rogue	X		X		X		X	O	O	O	O	O
Amazon	X		X		X		O	X	O	X	O	O
Paladin		X		X	X		X	X	X	X	X	X
Necromancer	X			X	X		X	X	X	X	X	X
Barbarian		X	X		X		X	O	O	O	X	O
Assassin	X			X	X		X	O	O	X	X	X
Sorceress	X			X	X		X	O	O	O	X	
Druid	X			X	X		X	X	X	X	X	X

Hair: s=styled/stylized n=non-styled/non-stylized build: m=muscular l=light (no visible musculature) fac: x=present
Armour: x=covers or protects this area o=almost or no protection

Table 4: Image analysis grid for Diablo avatars.

2. DA examines forms and functions of language produced by native speakers, and to classify the patterns' communicative function (Carter 1993: 23). CDA, on the other hand, is part of the field of critical linguistics, and, as such, as a political agenda that treats language as one social practice among many (e.g., body language, music) and sees discourse practices in the context of social practices and social structures (Kress 1990). The purpose of CDA's agenda is to reveal the discursive relations of causality and sources of power, dominance, inequality and bias (van Dijk 1998, Fairclough 1993: 135).

4. Method of analysis

The idea of combining corpora with discourse analysis (DA) or CDA² is not wholly new. To name only two studies, Orpin (2005) and Koteyko (2006) successfully combined them and showed their viability. Beisswenger (2008) used corpora to study computer-mediated communication (CMC). The idea of using corpora for the CDA of CGs is, however, a novel one. CDA is a tool for *text* analysis, and ludologists sustain the view that CG *cannot* be analysed as texts (Dovey and Kennedy 2006) since, they argue, games are collections of rules and do not represent anything outside the game world. Although there are many convincing arguments to create new tools for the analysis of CG (and, indeed, with the design of this new method it is what I am attempting to do here), ludologists have not yet convincingly argued away issues of representation in CG. Dovey and Kennedy (2006) summarize the state of this 'schism' (Newman 2004: 91) in the field of games studies thus:

By and large, the game interface is still representational; for many games, perhaps most, representation has not disappeared and cannot easily be argued away. Even though the representation content may only be an interface to the simulation of the game engine (even though action might be more significant than connotation, even though the textual meaning of the representation is secondary to the compulsive engagement with improved game performance – despite acknowledging all this, researchers working within these frameworks insist that most games still use representation; despite 'the *Tetris* Defence', it hasn't gone away. Whilst games use representation, they remain contextually aligned with operations of power; however, this alignment is certainly of a different order to the relations of meaning production encountered in novels, cinema or television.

(Dovey and Kennedy 2006: 101)

If we can argue that games exist in a social context (as opposed to an ahistorical social vacuum), and that there are operations of power within them, then it can be argued that the field of CDA has something to offer to the nascent field of game analysis (CGA). Norman Fairclough has contributed a great deal to the field of CDA and his approach to the CDA of texts is widely used, as it offers great flexibility in the way it is applied, and therefore it is relatively easy to couple with different methodologies. The approach described in Fairclough (2003) offered me a point of departure to the analysis of *Diablo* and *WoW*: it pointed out what elements of these games to focus on in order to unearth the underlying discourse embedded in them, and offered a way of linking these games to other texts in real life through the discursive elements they shared.

Before we continue, it bears saying a few more words about CDA for those unfamiliar with the term. CDA is the analysis of discourse through a variety of approaches and methods, each depending on the nature of the research being carried out (Hardt-Mautner 1995; Saha 1997; Fairclough & Wodak 1997; Pêcheux 1982; Wodak & Meyer 2001; Orpin 2005). CDA combines interdisciplinary, as well as 'transdisciplinary' techniques to analyse texts (Fairclough 2005) and to look at the way dominant discourses not only *represent* the world, but also *construct* the

1. world through a given text. CDA, according to Fairclough (1992; 1993;
 2. 1995a; 1995b; 2003) and Chouliaraki and Fairclough (1999) can be
 3. performed by examining a text as the basic unit of discourse, and looking
 4. at its context and surrounding elements (which can be other texts, e.g.
 5. what I have previously called 'meta-ludic' texts). This context refers not
 6. only to a text's accompanying images, which should never be disregarded
 7. in an analysis (Kress and van Leeuwen 1996), but to the discourses that
 8. exist around (and within) the text and the sociocultural practices that
 9. envelope it.

10. As said above, for the analysis I followed Fairclough's (2003)
 11. approach, with some CGA-specific modifications (which will be
 12. described below), and complementing the information provided by the
 13. corpus through the concordancer and image analysis grid as described
 14. above.

15. CDA has until now focused on the ideologies found in discourses, both as
 16. 'representations of how things are and have been, as well as imaginaries –
 17. representations of how things might or could or should be' (Fairclough
 18. 2003). The main focus in this analysis of the representation of female
 19. characters in CG will be the way the node discourse 'woman' derives from,
 20. and at the same time creates, other discourses that shape mainstream rep-
 21. resentations of females.

22. In order to do this, I have adapted Fairclough's (2003) approach to
 23. CDA into a method of analysis tailored for the analysis of CG. In what
 24. follows, I shall present a list of the steps taken, and then proceed to
 25. briefly explain the terms of reference used (in boldface type) that might
 26. be unfamiliar to readers unfamiliar with CDA before briefly comment-
 27. ing on the results of the analysis. I shall then state the conclusions
 28. drawn from them and move on to make some suggestions for further
 29. research.

30.
 31. The internal analysis of the text was executed by following these steps:

- 32.
- 33. • The text and image corpora were used to observe patterns and irregulari-
 34. ties in the representation of female characters, using Fairclough's criteria
 35. for the analysis of the representation of **social agents**, and adapting these
 36. criteria to accommodate visual as well as textual analysis.
- 37. • These observations were examined in order to offer some insights into
 38. the semantic (meaning) relations between some lexical (vocabulary)
 39. items and the text as a whole.
- 40. • The insights were linked to other insights obtained during gameplay
 41. and to more generalized instances in the corpus to identify some of
 42. the discourses operating within the representation of male and female
 43. characters.
- 44.

45. Once the internal analysis was done, the games as texts could be posi-
 46. tioned in context, in relation to other genres. This was accomplished by
 47. understanding the discursual objectives within the CG and how these are
 48. operationalized through **mediation**, and by establishing the relation
 49. between certain elements of the text and their **orientation to difference**;
 50. particularly in terms of **intertextuality** and **assumption**.

3. In Norman Fairclough's work 'difference' is opposed to 'equivalence' (2003). These two concepts express operations of power within a social context.

Let us begin by defining our terms of reference. 'Social agents' are individuals or collectives (such as political parties, 'females' or 'males' as a collective, etc.) that exercise agency ('Action') and thus shape themselves and the environment. Social agents are not completely free, as their actions are socially constrained (but not all of their actions are socially determined, cf. Fairclough 2003). 'Mediation' is the reproduction and dissemination of discourses through mass media (Luhmann 2000: 2, in Fairclough 2003: 18). According to Silverstone (1999) mediation also involves the 'movement of meaning', in what Fairclough (2003) calls 'chains' or 'networks' of texts. 'Orientation to difference'³ in this context can mean one of the following:

- Openness to/acceptance of/recognition of/difference in open dialogue.
- Accentuation of difference; conflict; polemic/struggle over meaning/norms/power.
- Attempts to resolve or overcome difference.
- A bracketing of difference/a focus on commonality or solidarity.
- Consensus/normalisation/acceptance of difference of power (which suppresses differences of meaning and norms).

(Fairclough 2003: 41)

'Intertextuality' in this context is the modification, alteration and adaptation of a text's meaning (and context) by other texts. Through the process of mediation, and through the use of codes (language and symbols) the creator of a text shares meaning with the reader. The text itself is something beyond the two: it can be seen as a conversation between the text itself and previous texts, a dialogue in contemporary culture, a vehicle for meaning-making by the readers themselves (Fairclough 2003). An 'assumption' is, in essence, implicit information that is pervasive in a certain context. In a positive light, assumptions provide the common ground on which communities are built, but on the other hand they are part of the formation of hegemonic ideologies, social power and domination, as they can modify and shape that same common ground (Fairclough 2003: 55). Fairclough identifies three types of assumptions: existential assumptions (which are concerned with what already is); propositional or factual assumptions (which are concerned with what is, or can be, or will be the case); and value assumptions (which are concerned with what is good or desirable) (Fairclough 2003: 55). 'Discourses', simply put, are institutionalized ways of thinking expressed through texts and symbols (Foucault 1980, 1998).

5. Results of analysis

The internal analysis of *Diablo* and *WoW* yielded some surprising conclusions. The keyword 'he' in each sub-corpus had three times the number of appearances than 'she'. Although this result was not unexpected in *Diablo*, due in particular to the pre-set gender of the playable characters, it did come as a surprise in *WoW*. It had been expected that, since *WoW* offers the choice to play all races and professions as male or female the inequality in numbers would have disappeared. The unequal frequency (in the

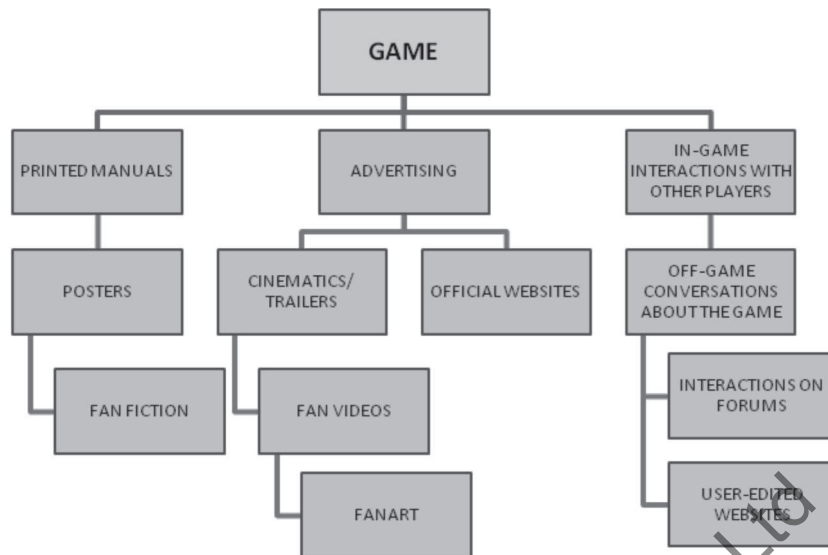


Figure 2: Text chain for WoW and Diablo.

case of the official websites) can be attributed to the background story. The most significant characters are all male (e.g., Prince Albrecht and King Leoric in *Diablo* and the Lord Kazzak, Illidan and Prince Kael'thas Sunstrider in *WoW*), or, if they are female, they only (or at least primarily) exist in the background story (e.g., Sylvanas Windrunner in *WoW*). This leads to the conclusion that there is a form of exclusion of female characters (Fairclough 2003: 145) in which they are both suppressed from the story, or 'backgrounded', which means their presence has to be inferred by the player.

When positioning *Diablo* and *WoW* as complex texts in relation to other genres, or indeed as part of a text chain, we obtain the following:

The texts within this text chain can, in turn, be classified into different categories or genres depending on their purpose. There will inevitably be overlaps across genres, but both the separation into different categories and the visual representation of what genres are connected were useful for the purpose of analysis. *WoW* and *Diablo* can not be analysed in isolation, but due attention must be paid to what discourse is present in them, and what from this discourse is replicated and disseminated in and through other texts in the chain.

6. Conclusions and recommendations

From the analysis of *Diablo* and *WoW* we can conclude that there is a strong discourse of marked gender difference operating in both games, made effective by the exclusion or suppression of female characters through assumptions that rely on intertextuality. Furthermore, we can conclude that this discourse of gender difference most strongly operates following Fairclough's (2003: 41–42) fifth orientation to difference (see above), i.e., difference based on legitimized assumptions about gender, and how it is socially constructed, as well as 'done'. In the universes these two

games belong to, in spite of all the fantastic elements, ideas of gender and gender roles seem to match those of traditional, mainstream society.

Fairclough's approach to CDA is extremely flexible, but its very flexibility can be said to be its biggest drawback, as it is difficult to adapt this approach to a method in a field outside of linguistics in a way that enables replicability. This particular adaptation of Fairclough's approach was project-specific, and future researchers should not feel constrained to my personal interpretation of it, or be prevented from blending the methods of data collection described above with other approaches to CDA, such as Baxter (2003), who offers a more detailed method that is perhaps better suited to gender-related linguistic analyses.

In spite of its drawbacks, however, I believe this method is well adapted to CGA. Bearing in mind that the method was project-specific, it seems clear that, with further refinement, this method has the potential to become a useful tool for CG studies, and particularly for the study of representation within CG.

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Appendix



University of Reading
School of Languages and European Studies
Department of Applied Linguistics

Masters Programme QUESTIONNAIRE
Part O. General Information (Všeobecné informace).

a) Please circle as appropriate (Prosím hodící se zakroužkujte):

GENDER: Male (Muž) Female (Žena)

b) Would you be willing to participate further in this study by allowing the researcher to interview you for a few minutes? (*Měl(a) byste zájem spolupracovat dále na této studii a poskytnout tazateli několika minutový rozhovor*) Yes No

c) If YES, please write your email address or phone number where you can be reached (*Pokud ANO, prosím uveďte svoji emailovou adresu nebo telefonní číslo, na kterém jste k zastížení*): _____

Part 1. Answer each of the following questions with three adjectives in the space provided. (An adjective is a word that describes a person or thing: for example, John is tall, interesting, intelligent. In this case 'tall, interesting, intelligent' are words that describe John. If you have any questions, please ask the researcher for further clarification.)

You can base your answers on the physical appearance of characters and creatures, their armour, their abilities, statistics or personality. Please write clearly.

Část 1. Odpovězte na každou z následujících otázek použitím tří přídavných jmen, uveďte na vyhrazeném volném místě. (Přídavné jméno je slovo, které popisuje osobu nebo věc, například: John je vysoký, zajímavý, inteligentní. V tomto případě „vysoký, zajímavý, inteligentní“ jsou slova, která popisují Johna. Pokud máte jakékoliv otázky, prosím požádejte tazatele o bližší vysvětlení.)

Své odpovědi můžete založit na fyzickém vzhledu postav a tvorů, jejich výzbroji, jejich schopnostech, statistikách nebo osobnosti. Prosím pište čitelně.

Diablo

Diablo 1 and Hellfire

1. How would you describe the Warrior in *Diablo 1*? Jak byste popsal(a) Válečníka/ Warrior ve hře *Diablo 1*?

_____.

2. How would you describe the sorcerer in *Diablo 1*? Jak byste popsal(a) Černokněžníka/Sorcerer ve hře *Diablo 1*?
 _____.
3. How would you describe the rogue in *Diablo 1*? Jak byste popsal(a) Vandráka/Rogue ve hře *Diablo 1*?
 _____.
4. How would you describe the monk in *Diablo 1: Hellfire*? Jak byste popsal(a) Mnicha/Monk ve hře *Diablo 1: Hellfire*?
 _____.
5. If you used the optional patch to play with the blocked characters in Hellfire, how would you describe the bard in *Diablo 1: Hellfire*? Pokud jste v *Hellfire* použil(a) možnost hry se zablokovanými postavami, jak byste popsal(a) Básníka/Bard v *Diablo 1: Hellfire*?
 _____.
6. If you used the optional patch to play with the blocked characters in Hellfire, how would you describe the barbarian in *Diablo 1: Hellfire*? Pokud jste v *Hellfire* použil(a) možnost hry se zablokovanými postavami, jak byste popsal(a) Barbaru/Barbarian v *Diablo 1: Hellfire*?
 _____.
7. How would you describe the male monsters and creatures in *Diablo 1* (for example, Stone Clan, Overlord)? Jak byste popsal(a) mužská monstra a tvory Básníka/Bard v *Diablo 1* (například: Kamenný klan/Stone Clan, Nadvládce/Overlord)?
 _____.
8. How would you describe the female monster in *Diablo 1* (The Succubus)? Jak byste popsal(a) ženské monstrum v *Diablo 1* (Míra/Succubus)?
 _____.
9. Did you find the succubus frightening? Shledal(a) jste Míru/Succubus děsivou? Proč?
 _____.
10. What NPCs (non-player characters) do you consider memorable in *Diablo 1* (for example, Cain (the sage), Akara (witch), the innkeeper...)? Why? Které z NPC (nevolitelných charakterů) považujete za pozoruhodné v *Diablo 1* (například: Cain (Mudrc/Sage), Akara (Čarodějka/Witch), Šenkýř/Innkeeper)? Proč?
 _____.

1. *Diablo 2 and Lord of Destruction*

2. Are you familiar with (i.e., do you own or regularly play) the expansion *Lord of Destruction* for *Diablo 2*? (Circle as appropriate) YES NO

4. If your answer is YES, please answer the following questions bearing in mind the characters as they stand in *Diablo 2: Lord of Destruction*. If your answer is NO, then answer the following questions based on the characters in the pre-expansion version of *Diablo 2*.

8. Jste obeznámen(a) (tj. vlastníte či pravidelně hrajete) s existencí pokračování *Diablo 2 Lord of Destruction*? (Zakroužkujte hodící se odpověď) ANO NE

10. Pokud jste odpověděl(a) ANO, prosím odpovězte na následující otázky týkající se postav vystupujících v *Diablo 2: Lord of Destruction*. Pokud jste odpověděl(a) NE, pak odpovězte na následující otázky týkající se postav v ukázkové verzi *Diablo 2*.

14. 1. How would you describe the barbarian in *Diablo 2*? Jak byste popsal(a) Barbaru/Barbarian ve hře *Diablo 2*?

17. _____

19. 2. How would you describe the paladin in *Diablo 2*? Jak byste popsal(a) Paladina/Paladin ve hře *Diablo 2*?

22. _____

24. 3. How would you describe the necromancer in *Diablo 2*? Jak byste popsal(a) Nekromana/Necromancer ve hře *Diablo 2*?

27. _____

29. 4. How would you describe the Amazon in *Diablo 2*? Jak byste popsal(a) Amazonku/Amazon ve hře *Diablo 2*?

32. _____

34. 5. How would you describe the sorceress in *Diablo 2*? Jak byste popsal(a) Kouzelnici/Sorceress ve hře *Diablo 2*?

37. _____

39. 6. How would you describe the assassin in *Diablo 2: Lord of Destruction*? Jak byste popsal(a) Vraha/Assasin ve hře *Diablo 2: Lord of Destruction*?

42. _____

44. 7. How would you describe the druid in *Diablo 2: Lord of Destruction*? Jak byste popsal(a) Druida/Druid ve hře *Diablo 2: Lord of Destruction*?

47. _____

49. 8. How would you describe the male monsters and creatures in *Diablo 2 and Lord of Destruction* (for example, the Fallen Shaman or Blunderbore)? Jak byste

popsal(a) mužská monstra a tvory v *Diablo 2* a *Lord of Destruction* (například: Padlý šaman/Fallen Shaman nebo Packal/Bluderbore)?

_____.

9. How would you describe the female monsters and creatures in *Diablo 2* and *Lord of Destruction* (for example, the huntress or Andariel)? Jak byste pops(a) žensk(a) monstra a tvory v *Diablo 2* *Lord of Destruction* (například: Lovkyně/Huntress nebo Andariel)?

_____.

10. What NPCs (non-player characters) do you consider memorable in *Diablo 2* (for example, Kashya (the captain), Cain (the sage), or Charsi (the smith))? Why? Které z NPC (nevolitelných charakterů) považujete za pozoruhodné v *Diablo 2* (například: Kashya (kapitán/Captain), Cain (Mudr/Sage) nebo Charsi (kovář/Smith))? Proč?

_____.

11. How would you describe the following 'meres' (mercenaries/ hirelings) and their abilities?

Jak byste pops(a) následující „žoldáky“ (Zoldnéři/Mercenaries/Nádeníci/Hirelings) a jejich dovednosti?:

The spearman/ Kopiník

The sorcerer/ Černokněžník

The rogue/ Vandrík

The barbarian/ Barbar

12. What character do you normally choose when playing *Diablo* in single player mode? Why? Kterou postavu si obvykle vybíráte, když hrajete *Diablo* samostatně? Proč?

_____.

13. What character do you normally choose when playing *Diablo* in multiplayer player mode? Why? Kterou postavu si obvykle vybíráte, když hrajete *Diablo* s více hráči? Proč?

_____.

World of Warcraft Alliance

1. How would you describe the (male) Draenei in *World of Warcraft*? Jak byste pops(a) Draenei (muž) ve *World of Warcraft*?

_____.

1. 2. How would you describe the (male) dwarves in *World of Warcraft*? *Jak byste popsal(a) Trpaslíky/Dwarves (muž) ve World of Warcraft?*
2. _____, _____, _____
- 3.
- 4.
- 5.
6. 3. How would you describe the (male) gnomes in *World of Warcraft*? *Jak byste popsal(a) Skřítiky/Gnomes (muž) ve World of Warcraft?*
7. _____, _____, _____
- 8.
- 9.
10. 4. How would you describe the (male) humans in *World of Warcraft*? *Jak byste popsal(a) Lidské bytosti/Humans (muž) ve World of Warcraft?*
11. _____, _____, _____
- 12.
- 13.
- 14.
15. 5. How would you describe the (male) night elves in *World of Warcraft*? *Jak byste popsal(a) Noční elfy/Night Elves (muž) ve World of Warcraft?*
16. _____, _____, _____
- 17.
- 18.
- 19.
20. 6. How would you describe the (female) Draenei in *World of Warcraft*? *Jak byste popsal(a) Draenei (žena) ve World of Warcraft?*
21. _____, _____, _____
- 22.
- 23.
- 24.
25. 7. How would you describe the (female) dwarves in *World of Warcraft*? *Jak byste popsal(a) Trpaslice/Dwarves (žena) ve World of Warcraft?*
26. _____, _____, _____
- 27.
- 28.
- 29.
30. 8. How would you describe the (female) gnomes in *World of Warcraft*? *Jak byste popsal(a) Skřítiky/Gnomes (žena) ve World of Warcraft?*
31. _____, _____, _____
- 32.
- 33.
34. 9. How would you describe the (female) humans in *World of Warcraft*? *Jak byste popsal(a) Lidské bytosti/Humans (žena) ve World of Warcraft?*
35. _____, _____, _____
- 36.
- 37.
- 38.
39. 10. How would you describe the (female) night elves in *World of Warcraft*? *Jak byste popsal(a) Noční elfy/Night Elves (žena) ve World of Warcraft?*
40. _____, _____, _____
- 41.
- 42.
- 43.
- 44.
45. **Horde**
- 46.
47. 11. How would you describe the (female) blood elves in *World of Warcraft*? *Jak byste popsal(a) Krvavé elfy/Blood Elves (žena) ve World of Warcraft?*
48. _____, _____, _____
- 49.
- 50.

12. How would you describe the (female) Orcs in *World of Warcraft*? *Jak byste popsali(a) Skřety/Orcs (žena) ve World of Warcraft?*

_____.

13. How would you describe the (female) Tauren in *World of Warcraft*? *Jak byste popsali(a) Tauru/Tauren (žena) ve World of Warcraft?*

_____.

14. How would you describe the (female) trolls in *World of Warcraft*? *Jak byste popsali(a) Trolu/Trolls (žena) ve World of Warcraft?*

_____.

15. How would you describe the (female) undead in *World of Warcraft*? *Jak byste popsali(a) Nesmrtelné/Undead (žena) ve World of Warcraft?*

_____.

16. How would you describe the (male) blood elves in *World of Warcraft*? *Jak byste popsali(a) Krvavé elfy/Blood Elves (muž) ve World of Warcraft?*

_____.

17. How would you describe the (male) Orcs in *World of Warcraft*? *Jak byste popsali(a) Skřety/Orcs (muž) ve World of Warcraft?*

_____.

18. How would you describe the (male) Tauren in *World of Warcraft*? *Jak byste popsali(a) Tauru/Tauren (muž) ve World of Warcraft?*

_____.

19. How would you describe the (male) trolls in *World of Warcraft*? *Jak byste popsali(a) Trolu/Trolls (muž) ve World of Warcraft?*

_____.

20. How would you describe the (male) undead in *World of Warcraft*? *Jak byste popsali(a) Nesmrtelné/Undead (muž) ve World of Warcraft?*

_____.

21. How would you describe the small pets in *World of Warcraft*? *Jak byste popsali(a) malé mazlíčky ve World of Warcraft?*

_____.

1.
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48.
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50.

1. 22. How would you describe the combat pets in *World of Warcraft*? *Jak byste popsal(a)*
2. *bojovné mazlíčky ve World of Warcraft?*

3. _____
4. _____

5. 23. Which is your favourite combat pet? Why? *Jaký je Váš nejoblíbenější bojovný*
6. *mazlíček? Proč?*

7. _____
8. _____
9. _____

10. 24. What NPCs (non-player characters) do you consider memorable in *World of*
11. *Warcraft*? Why? *Které z NPC (nevolitelných charakterů) považujete za pozoruhodné*
12. *ve World of Warcraft? Proč?*

13. _____
14. _____
15. _____

16. 25. What race, class and gender do you normally choose when starting a new char-
17. *acter to play World of Warcraft? Why? Který druh, třídu a pohlaví obvykle volíte při*
18. *zapojení nové postavy do hry World of Warcraft? Proč?*

19. _____
20. _____
21. _____

22. Part 2. Please answer the following questions in the space provided. *Prosím odpovězte*
23. *na následující otázky na vyhrazeném volném místě:*

24. What other computer games do you play? *Jaké další počítačové hry hrajete?*

25. _____
26. _____
27. _____

28. Please name your favourite RPGs (role-playing games), and your favourite character
29. *type in each. Prosím vyjmenujte Vaši nejoblíbenější RPGs (role-playing games), a typ*
30. *Vaši nejoblíbenější postavu v každé z nich.*

31. 1. When choosing a character to start a new game in single player mode which
32. *gender do you choose more often, male, female or neuter? Why? Když si vybíráte*
33. *postavu na začátku nové hry, kterou hrajete sám/sama, jakého pohlaví je častěji – muž,*
34. *žena nebo neutrální? Proč?*

35. _____
36. _____
37. _____

38. 2. When choosing a character to start a new game in multiplayer mode which
39. *gender do you choose more often, male, female or neuter? Why? Když si vybíráte*
40. *postavu na začátku nové hry, kterou hrajete s dalšími hráči, jakého pohlaví je častěji –*
41. *muž, žena nebo neutrální? Proč?*

42. _____
43. _____
44. _____

45. 3. In your opinion, is there any difference between playing with a male character,
46. *a female character and a neuter one in a single player game? If so, what is the*
47. *difference? Existuje dle Vašeho názoru při samostatné hře rozdíl mezi hrou s postavou*
48. *mužského, ženského nebo neutrálního pohlaví? Pokud ano, v čem je rozdíl?*

49. _____
50. _____

4. In your opinion, is there any difference between playing with a male character, a female character and a neuter one in a multiplayer game or an online game? If so, what is the difference? *Existuje dle Vašeho názoru při kolektivní či on-line hře rozdíl mezi hrou s postavou mužského, ženského nebo neutrálního pohlaví? Pokud ano, v čem je rozdíl?*

5. In your opinion, is there any difference between fighting a male monster and a female one? If so, what is the difference? *Je dle Vašeho názoru rozdíl mezi bojem s monstrem mužského a ženského pohlaví? Pokud ano, v čem rozdíl spočívá?*

Thank you very much for your participation!

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References

- Aarseth, E. (2004), 'Genre Trouble: Narrativism and the Art of Simulation', in N. Wardrip-Fruin and P. Harrigan (eds), *First Person: New Media as Story, Performance and Game*, Cambridge, MA: MIT Press, pp. 45–56.
- Aarseth, E. (2003), 'We All Want to Change the World: The Ideology of Innovation in Digital Media', in L. Gunnar, A. Morrison, and T. Rasmussen (eds), *Digital Media Revisited: Theoretical and Conceptual Innovations in Digital Domains*, Cambridge, MA: MIT Press, pp. 415–442.
- Aarseth, E. (2001), 'Computer Game Studies, Year One', *Game Studies: The International Journal of Computer Game Research*, 1:1, <http://gamestudies.org/0101/editorial.html>. Accessed 3 February 2007.
- Apogee Software, Ltd. (1997), Duke Nukem 3D Official Website, <http://www.3drealms.com/games.html>. Accessed 20 December 2007.
- Atkins, B. (2003), *More Than A Game: The Computer Game as a Fictional Form*, Manchester: Manchester University Press.
- Balsamo, A. (1996), *Technologies of the Gendered Body: Reading Cyborg Women*, London: Duke University Press.
- Banks, J. (1998), 'Controlling Gameplay in MC', *A Journal of Media and Culture*, 1:5, <http://www.uq.edu.au/mc/9812/game.html>. Accessed 12 January 2007.
- Barthes, R. (1973), *Mythologies*, London: Routledge.
- Baudrillard, J. (1998), *The Consumer Society: Myths and Structures*, London: Sage.
- Bauman, Z. (1993), *Postmodern Ethics*, Malden: Wiley-Blackwell.
- Beisswenger, M. and Storrer, A. (2008), 'Corpora of Computer Mediated Communication', in A. Lüdeling and M. Kytö (eds), *Corpus Linguistics. An International Handbook*, Volume 1, Berlin: Mouton de Gruyter, pp. 292–308.
- Bell, Q. (1947), *On Human Finery*, London: Hogarth Press.

1. Benwell, B. and Stokoe, E. (2006), *Discourse and Identity*, Edinburgh: Edinburgh
2. University Press.
3. Bignell, J. (2002), *Media Semiotics: An Introduction*, second edition, Manchester:
4. Manchester University Press.
5. Blizzard Entertainment, Inc. (2003–9), *World of Warcraft*, Los Angeles, CA: Vivendi
6. Games.
7. Blizzard Entertainment, Inc. (2007), *World of Warcraft: The Burning Crusade*, Los
8. Angeles, CA: Vivendi Games.
9. Blizzard Entertainment, Inc. (2001), World of Warcraft Official Website, [http://](http://www.worldofwarcraft.com/index.xml)
10. www.worldofwarcraft.com/index.xml. Accessed 1 February 2008.
11. Blizzard Entertainment, Inc. (2005), World of Warcraft (Europe) Official
12. Website, <https://www.WoW-europe.com/en/index.xml>. Accessed 1 February
13. 2008.
14. Blizzard North (1996), *Diablo I*, Irvine, CA: Blizzard Entertainment.
15. Blizzard North (2000), *Diablo II*, Irvine, CA: Blizzard Entertainment.
16. Blizzard North (2001), *Diablo II: Lord Of Destruction*, Irvine, CA: Blizzard
17. Entertainment.
18. Blizzard Official Website (2008), <http://www.blizzard.com>. Accessed January
19. 28 2008.
- 20.
21. Brennkemeyer, I. (1963), *The Sociology of Fashion*, Paris: Librairie du Recueil Sirey.
22. Brooks, K., Jackson, P. and Stevenson, N. (2001), *Making Sense of Men's*
23. *Magazines*, Cambridge: Polity Press.
24. Brownmiller, S. (1984), *Femininity*, New York: Linden Press.
25. Bucholtz, M. and Hall, K. (eds) (1995), *Gender Articulated*, New York: Routledge.
26. Bucholtz, M., Liang, A. C. and Sutton, L. (1999), *Reinventing Identities: The Gendered*
27. *Self in Discourse*, Oxford: Oxford University Press.
28. Burn, A. and Parker, D. (2003), *Analysing Media Texts*, London: Continuum.
29. Butler, J. (1993), *Bodies that Matter: On the Discursive Limits of 'Sex'*, New York &
30. London: Routledge.
31. Butler, J. (1990), *Gender Trouble: Feminism and the Subversion of Identity*, New York
32. & London: Routledge.
33. Caldas-Coulthard, C. R. and Coulthard, M. (1996), *Texts and Practices: Readings in*
34. *Critical Discourse Analysis*, London: Routledge.
- 35.
36. Cameron, D. (ed) (1990), *The Feminist Critique of Language: A Reader*, London:
37. Routledge.
38. Caillois, R. (1961), *Man, Play and Games* (trans. M. Barash), New York: The Free
39. Press.
40. Carr, D., Schott, G., Burn A. and Buckingham, D. (2004), 'Doing Game Studies: a
41. Multi-Method Approach to the Study of Textuality, Interactivity and Narrative
42. Space', *Media International Australia*, Vol. 110, pp. 19–30.
43. Carter, A. (1979), *The Sadeian Woman: An Exercise in Cultural History*, London:
44. Penguin.
45. Carter, R. (1993), *Introducing Applied Linguistic*, Harlow: Penguin.
46. Castronova, E. (2005), *Synthetic Worlds: The Business and Culture of Online*
47. *Games*, Chicago: The University of Chicago Press.
48. Chafe, W. (1992), 'The Importance of Corpus Linguistics to Understanding the
49. Nature of Language', in J. Svartvik (ed.), *Directions in Corpus Linguistics*.
- 50.

- Proceedings of the Nobel Symposium*, 82, Stockholm, 4–8 August 1991, Berlin, New York: Mouton de Gruyter, pp. 79–97. 1.
- Cherry, L. and Wise, E. R. (eds) (1996), *Wired Women: Gender and New Realities in Cyberspace*, Washington: Seal Press. 2.
- Chouliarakis, L. and Fairclough, N. (1999), *Discourse in Late Modernity: Rethinking Critical Discourse Analysis*, Edinburgh: Edinburgh University Press. 3.
- Cobley, P. and Jansz, L. (1997), *Introducing Semiotics*, Cambridge: Icon Books. 4.
- Compton, S. (ed) (2004), *Gamers: Writers, Artists and Programmers on the Pleasures of Pixels*, Brooklyn: Soft Skull Press. 5.
- Coulthard, M. (ed) (1992), *Advances in Spoken Discourse Analysis*, London: Routledge. 6.
- Crockett, S. (2002), 'For Young Fans, The Name of The Game is Gore', *washington-post.com*, http://www.lionlamb.org/news_articles/for_young_fans_wash_post.htm. Accessed 19 December 2007. 7.
- Crystal, D. (2001), *Language and the Internet*, Cambridge: Cambridge University Press. 8.
- Davis, F. (1992), *Fashion, Culture and Identity*, Chicago: The University of Chicago Press. 9.
- Dickson, D. (1974), *Alternative Technology and the Politics of Technical Change*, London: Fontana. 10.
- van Dijk, T. (1993), *Élite Discourse and Racism*, New York: Sage. 11.
- van Dijk, T. (1998), 'Critical Discourse Analysis', www.discourses.org. Accessed 7 November 2007. 12.
- van Dijk, T. (2001), 'Multidisciplinary CDA: A Plea for Diversity', in R. Wodak and M. Meyer (eds), *Methods of Critical Discourse Analysis*, London: Sage, pp. 95–120. 13.
- Dovey, J. and Kennedy, H. W. (2006), *Game Cultures: Computer Games as New Media*, Maidenhead: Open University Press. 14.
- Epps, B. (2007), *Monique Wittig: At The Crossroads of Criticism*, London: Duke University Press. 15.
- Fairclough, N. (1989), *Language and Power*, New York: Longman. 16.
- Fairclough, N. (1992), *Discourse and Social Change*, Cambridge: Polity Press. 17.
- Fairclough, N. (1993), 'Critical Discourse Analysis and the Marketization of Public Space: The Universities', *Discourse and Society*, 4:2, pp. 133–168. 18.
- Fairclough, N. (1995a), *Critical Discourse Analysis: The Critical Study of Language*, London: Longman. 19.
- Fairclough, N. (1995b), *Media Discourse*, London: Edward Arnold. 20.
- Fairclough, N. (2003), *Analysing Discourse: Textual Analysis For Social Research*, New York: Routledge. 21.
- Fairclough, N. and Wodak, R. (1997), 'Critical Discourse Analysis', in T. Van Dijk (ed) *Discourse as Social Interaction*, London: Sage. 22.
- Flügel, J. C. (1930), *The Psychology Of Clothes*, London: Hogarth Press. 23.
- Foucault, M. (1980), *The History of Sexuality*, volume 1, New York: Vintage. 24.
- Foucault, M. (1998), *The History of Sexuality*, volume 1, An Introduction, London: Penguin Books. 25.
- Fuss, D. (1989), *Essentially Speaking*, New York: Routledge. 26.
- Frasca, G. (2003), 'Ludologists Love Stories, Too: Notes From a Debate That Never Took Place', in M. Copierand and J. Raessens (eds), *Level Up: Digital Game Research Conference Proceedings*, Utrecht: University of Utrecht, pp. 92–100. 27.

1. Fraser, M. and Greco, M. (eds) (2005), *The Body: A Reader*, New York: Routledge.
2. Freeman, D. (2004), *Creating Emotion in Computer Games: The Craft and Art of Emotioneering*, Berkley: New Riders.
- 3.
4. Game Spot UK (2007), <http://www.gamespot.com>. Accessed 12 December 2007.
5. Gardina, A. (2006), *Use of Computer Mediated Communication in Massively-Multiplayer Online Role-Playing Games*, Ithaca College: New York, <http://www.ithaca.edu/rhp/portfolio/p26/MMORPG.pdf>. Accessed 20 December 2007.
6. Gauntlett, D. (2002), *Media, Gender and Identity: An Introduction*, New York: Routledge.
- 7.
8. Giddens, A. (1992), *The Transformation of Intimacy: Sexuality, Love and Eroticism in Modern Society*, Cambridge: Polity Press.
9. Gillian, C. (1982), *In a Different Voice: Psychological Theory of Women's Development*, Cambridge: Harvard University Press.
10. Rockstar Games (1997), Grand Theft Auto Official Website, <http://www.gta-sanandreas.com>. Accessed 19 December 2007.
11. Graner Ray, S. (2004), *Gender Inclusive Game Design: Expanding the Market*, Hingham: Charles River Media.
12. Grogan, S. (1999), *Body Image*, London: Routledge.
13. Halavais, A. (2006), *Cyberporn and Society*, Dubuque: Kendall Hunt.
14. Hardt-Mautner, G. (1995), 'Only Connect: Critical Discourse Analysis and Corpus Linguistics', <http://ucrel.lancs.ac.uk/papers/techpaper/vol6.pdf>. Accessed 12 October 2007.
15. Holland, J. (2006), *Misogyny: The World's Oldest Prejudice*, London: Constable & Robinson.
16. Huizinga, J. (1955), *Homo Ludens: A Study of the Play Element in Culture*, London: Beacon Press.
17. Itzen, C. (1986), *Media Images of Women: The Social Construction of Ageism and Sexism*, in S. Wilkinson (ed), *Feminist Social Psychology*, Milton Keynes: Open University Press, pp. 119–134.
18. Johansen, J. D. and Larsen, S. E. (2002), *Signs in Use: An Introduction to Semiotics*, New York: Routledge.
19. Jenkins, H. (2001), 'From Barbie to Mortal Kombat – Further Reflections', <http://culturalpolicy.uchicago.edu/conf2001/papers/jenkins.html>. Accessed 11 October 2009.
20. Juul, J. (2003), 'The Player, the World: Looking for a Heart of Gameness', in M. Copier and J. Raessens (eds), *Level Up: Digital Game Research Conference Proceedings*, Utrecht: University of Utrecht, pp. 30–47.
21. Kennedy, H. W. (2002), 'Lara Croft: Feminist Icon or Cyberbimbo? On the Limits of Textual Analysis', *Game Studies*, 2:2, <http://www.gamestudies.org/0202/>. Accessed 17 December 2006.
22. Kirkup, G. and Smith Keller, L. (eds) (1992), *Inventing Women: Science, Technology and Gender*, Oxford: Blackwell Publishers Ltd.
23. Koteyko, N. (2006), 'Corpus Linguistics and the Study of Meaning Discourse', *Linguistics Journal*, 6:2, http://www.linguistics-journal.com/June2006_nk.php. Accessed 15 July 2007.
24. Kress, G. (1990), 'Critical Discourse Analysis', in R. Kaplan (ed.), *Annual Review of Applied Linguistics*, Vol. 11, pp. 84–99.
25. Kress, G. and van Leeuwen, T. (1996), *Reading Images: The Grammar of Visual Design*, London: Routledge.

- Lacan, J. (1977), 'The Mirror Stage as Formative of the Function of the I', in *Écrits: A Selection* (trans. A Sheridan), New York: W. W. Norton. 1.
- Laclau, E. and Mouffe, C. (1985), *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics*, London: Verso. 2.
- Lahti, M. (2003), 'Corporealized Pleasures in Video Games', in M. J. P. Wolf and B. Perron (eds), *The Video Game Theory Reader*, London: Routledge, pp. 157–170. 3.
- Lakoff, G. (2004), *Don't Think of an Elephant! Know Your Values and Frame Your Debates: The Essential Guide For Progressives*, New York: Chelsea Green. 4.
- Levy, A. (2005), *Female Chauvinist Pigs*, London: Simon & Schuster. 5.
- Macdonald, M. (1995), *Representing Women: Myths of Femininity in the Popular Media*, London: Edward Arnold. 6.
- Marrow, M. (2007), 'n.t.', in T. Kalogeropoulos (thread ed.), *Roundtable-Sexism and Video Games*, <http://palgn.com.au/article.php?id=7234>. Accessed 19 December 2007. 7.
- McClintock, M. K. and Herdt, G. (1996), 'Rethinking Puberty: The Development of Sexual Attraction', *Current Directions in Psychological Science* Vol. 5, pp. 178–183. 8.
- McCracken, F. (1993), *Decoding Women's Magazines: From Mademoiselle to Ms*, London: Macmillan. 9.
- McLoughlin, L. (2000), *The Language of Magazines*, Milton Park: Routledge. 10.
- Mediaawareness.ca (n.d.), 'The Concerns About Video Games: Gender Stereotyping', http://www.mediaawareness.ca/english/parents/video_games/concerns/gender_videogames.cfm. Accessed 19 December 2007. 11.
- Meyer, M. and Wodak, R. (eds) (2001), *Methods of Critical Discourse Analysis*, London: Sage. 12.
- Moulthrop, S. (2004), 'From Work to Play: Molecular Culture in the Time of the Deadly Games', in N. Wardrip-Fruin and P. Harrigan (eds), *First Person: New Media as Story, Performance and Game*, Cambridge, MA: MIT Press, pp. 56–70. 13.
- Murray, J. (1998), *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*, Cambridge: MIT Press. 14.
- Myers, G. (1999), *Ad Worlds: Brands, Media, Audiences*, London: Arnold. 15.
- Newman, J. (2004), *Videogames*, London: Routledge. 16.
- Ooi, C. S. (2002), 'Persuasive Histories: Decentering, Recentering and the Emotional Crafting of the Past', *Journal of Organizational Change Management*, 15:6, pp. 606–621. 17.
- Orpin, D. (2005), 'Corpus Linguistics and Critical Discourse Analysis: Examining the Ideology of Sleaze', *International Journal of Corpus Linguistics*, 10:1, pp. 37–61. 18.
- Pêcheux, M. (1982), *Language, Semantics and Ideology: Stating the Obvious*, London: Macmillan. 19.
- Poole, S. (2000), *Trigger-Happy: The Inner Life of Video Games*, London: 4th Estate. 20.
- Robinson, P. C. and Spelman-Miller, K. (2002a), *MAELT English in Context Materials: The Analysis of Interaction*, 1–4, Reading: The University of Reading. 21.
- Robinson, P. C. and Spelman-Miller, K. (2002b), *MAELT English in Context Materials: Pragmatics*, Reading: The University of Reading. 22.
- Robinson, P. C. and Spelman-Miller, K. (2002c), *MAELT English in Context Materials: Patterning of Texts*, Reading: The University of Reading. 23.
- Rubenstein, A. (2007), 'Idealizing Fantasy Bodies', in *The Iris Gaming Network*, <http://theirisnetwork.org/2007/05/26/idealizing-fantasy-bodies>. Accessed 11 October 2009. 24.

1. Saha, L. (ed.) (1997), *International Encyclopaedia of the Sociology of Education*, Oxford: Elsevier Science Ltd.
- 2.
3. Salen, K. and Zimmerman, K. (2004), *Rules of Play*, Cambridge, MA: The MIT Press.
4. Sedgwick, E. K. (1993), 'Gender Asymmetry and Erotic Triangles in Feminisms: An Anatomy of Literary Theory and Criticism', in R. R. Warhol and D. Price (eds), *Feminisms: An Anthology of Literary Theory and Criticism*, New Brunswick: Rutgers University Press, pp. 507–531.
- 5.
- 6.
- 7.
8. Silverstone, R. (1999), *Why study the media?*, London: Sage.
9. Spender, D. (1980), *Man Made Language*, London: Routledge & Kegan Paul.
10. Steele, V. (1985), *Fashion and Eroticism*, New York: Oxford University Press.
11. Stewert Millar, M. (1998), *Cracking the Gender Code: Who Rules the Wired World?*, Toronto: Second Story Press.
- 12.
- 13.
14. Stone, A. R. (1992), 'Will The Real Body Stand Up? Boundary Stories about Virtual Cultures', in M. Benedikt (ed.), *Cyberspace: First Steps*, Cambridge, MA: MIT Press, pp. 81–118.
- 15.
- 16.
17. Stubbs, M. (1983), *Discourse Analysis: The Sociolinguistic Analysis of Natural Language*, Chicago: University of Chicago Press.
- 18.
19. Tannen, D. (2005), *Conversation Analysis: Analyzing Talk Among Friends*, Oxford: Oxford University Press.
- 20.
21. Taylor, T. L. (2006), *Play Between Worlds: Exploring the Online Game Culture*, Cambridge, MA: MIT Press, pp. 113–117.
- 22.
23. The Associated Press (2004), 'Playboy Goes Digital – With Its Models', <http://www.msnbc.msn.com/id/5933462/>. Accessed 10 November 2006.
- 24.
25. Thompson, P. (2007), *MAAL Corpora in Applied Linguistics Materials*, 1–7, Reading: The University of Reading.
- 26.
27. Tolman, D. L. and Diamond, L. M. (2001), 'Desegregating Sexuality and Research: Cultural and Biological Perspectives on Gender and Desire', *Annual Review of Sex Research*, Vol. 12, pp. 33–74.
- 28.
- 29.
30. Turkle, S. (1984b), *The Second Self: Computers and the Human Spirit*, London: Granada.
31. Turkle, S. and Papert, S. (1990), 'Epistemological Pluralism: Styles and Voices within the Computer Culture', *SIGNS* 16:1, pp. 128–157.
- 32.
33. Turner, B. S. (1984), *The Body and Society*, Oxford: Blackwell.
34. Udry, J. R., Talbert, L. M. and Morris, N. M. (1986), 'Biosocial Foundations for Adolescent Female Sexuality', *Demography*, Vol. 23, pp. 217–230.
- 35.
36. Udry, J. R. (1993), 'The Politics of Sex Research', *The Journal of Sex Research*, Vol. 30, pp. 103–110.
- 37.
- 38.
39. Williams, R. (1975), *The Long Revolution*, Harmondsworth: Penguin.
40. Wizards of the Coast LLC (1995), *Dungeons & Dragons Official Website*, <http://www.wizards.com/>. Accessed 7 September 2007.
- 41.
42. Wolf, M. J. P. and Perron, B. (eds) (2003), *The Video Game Theory Reader*, New York: Routledge.
- 43.
44. Wolmark, J. (ed.) (1999), *Cybersexualities: A Reader on Feminist Theory, Cyborgs and Cyberspace*, Edinburgh: Edinburgh University Press.
- 45.
46. Women Gamers Official Website (1999), <http://womengamers.com/>. Accessed 7 January 2008.
- 47.
48. Yee, N. (2006), 'The Demographics, Motivations and Derived Experiences of Users of Massively Multiuser Online Graphical Environments', *PRESENCE: Teleoperators and Virtual Environments*, 15:3, pp. 309–329.
- 49.
- 50.

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Contributor details

Isamar Carrillo (MA) has taught English and Linguistics since 1997 in Venezuela, Taiwan, the Czech Republic and Oman. Ms Carrillo Masso graduated with distinction in 2008 from Reading University, and is currently reading for a Ph.D. in New Media at the University of Bangor.

Contact: School of Creative Studies and Media, Bangor University, College Road, Bangor, Gwynedd, LL57 2DG.

E-mail: isamar.carrillo@gmail.com

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