Skipping Through the Shadowlands: Exploring the Relationship between Game Narrative and Player Experience in World of Warcraft

by

Derrick M. Wang

A thesis
presented to the University of Waterloo
in fulfillment of the
thesis requirement for the degree of
Master of Applied Science
in
Systems Design Engineering

Waterloo, Ontario, Canada, 2021

© Derrick M. Wang 2021

Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

Video games feature narratives in non-traditional formats, such as fragments mixed in with gameplay and spread across the game environment and even the real world. These fragments connect with each other. They form a system delivering the overarching story. Although game narratives have been well-studied in both academia and industry, the relationship between game narratives and player experience yet remains underdeveloped. Many games allow players to skip narratives, but it is uncertain what impact skipping parts of the narrative (therefore missing the information) may have on the player experience of a game.

In this thesis, I propose a structured overview of narrative systems consisting of 11 non-interactive narrative forms currently existing in World of Warcraft (WoW)—namely a hierarchical distinction between in-game (i.e., internal) and out-of-game (i.e., external) narratives. I conducted an online survey study among WoW players to learn about their experience and preference for the game's narrative. More importantly, I investigated whether and why they choose to skip narratives in the game. WoW served as a perfect game example for this study because it is centered on narrative but still playable without. It features fragmented storytelling on a pre-written overarching narrative, scattered in many distinct narrative forms both inside and out of the game. Moreover, almost all gameplay elements WoW features can be found in other game genres that include narrative. Thus, it is possible to extrapolate findings from this study to other games.

I discovered that players generally acknowledge the existence of all 11 narrative forms in WoW and have clear preferences and reasons to consume or skip each form. These results strongly support my proposed hierarchy of narrative forms, suggesting that game designers should prioritize narrative forms featuring higher-fidelity assets such as film-grade, lifelike cinematic cutscenes when designing fragmented narratives, and have back-up plans (to repeat narrative arcs) in case players miss key information that affects gameplay.

Acknowledgments

I would like to first thank my supervisor, Dr. Lennart Nacke, for his support and mentorship that constantly inspired me and guided me to overcome challenges in my study. He has been a father figure through my entire academic journey.

I would also like to thank my committee members: Dr. Shi Cao and Dr. Daniel Harley for taking the time to read my work and provide valuable feedback that greatly helped me polish the final version of this thesis.

I am grateful to Dr. Katja Rogers and Alessandra Luz for their valuable recommendations and feedback throughout the writing of this thesis.

I would like to specifically thank our undergraduate research assistants Fancheng Sun, Arnold Dian Abistado Jr., Lydia Choong, and Ally Suarez for their contribution and support in this thesis.

I thank my colleagues at the Games Institute for the welcoming environment and stimulating conversation.

I thank my family for their unwavering faith in me and support throughout my pursuit of passion. Thank you Mr. Q for all the fond memories, may you rest in peace.

Table of Contents

List of Figures						
List of Tables						
1	Introduction					
	1.1	Motivation	1			
	1.2	Aims, Goals, & Research Questions	2			
	1.3	Structure of this thesis	3			
	1.4	Results & Contribution	3			
2	Related Work					
	2.1	MMORPG	5			
	2.2	World of Warcraft	6			
	2.3	Narratives in World of Warcraft	7			
	2.4	Narrative studies in games	8			
		2.4.1 Transmedia storytelling and Worldbuilding	9			
		2.4.2 Game narrative and Player experience	9			
	2.5	Summary of research gap	10			
3	A Model of the Narrative System in WoW					
	3.1	Taxonomy of Narrative Forms	12			

	3.2	.2 Internal narratives			
		3.2.1	Cinematics	15	
		3.2.2	Cutscenes	15	
		3.2.3	Dialogues	17	
		3.2.4	Text	18	
3.3 External narratives			nal narratives	19	
		3.3.1	Non-game animations	19	
		3.3.2	Comics	20	
		3.3.3	Novels	21	
	3.4	Exam	ple of the narrative as a system	21	
		3.4.1	WoW storytelling methods	22	
		3.4.2	The Whole Picture	22	
4 Method				24	
	4.1	Partic	ipants	26	
	4.2	4.2 Procedure			
	4.3	Analy	sis	28	
5	Res	ults		30	
	5.1	Under	estanding the players	30	
		5.1.1	WoW player profiling	30	
		5.1.2	Experience with WoW	32	
		5.1.3	Player enjoyment in general	35	
		5.1.4	Consumption of game narrative in general	35	
	5.2 Narrative System			36	
		5.2.1	Awareness	37	
		5.2.2	Consumption	37	
		523	Reasons to skip	38	

References					
clusion	5	7			
6.4.6	Game designer suggestions	5			
6.4.5	·	5			
6.4.4	Narrative preference and player traits	4			
6.4.3	Player character data	4			
6.4.2	Gameplay as a narrative form	4			
6.4.1	User-generated content	4			
Future	works	4			
Limita	tion	3			
6.2.3	Leveling and narrative	2			
6.2.2	Narrative experience and preference	2			
6.2.1	Player enjoyment of the game	0			
Unders	tanding the players	9			
6.1.2	Consumption of narrative forms	9			
6.1.1	Enjoyment of narrative forms	8			
Narrat	ive as a system	7			
ussion	4	7			
5.3.5	Leveling and narrative	4			
5.3.4		3			
5.3.3	Variety				
5.3.2		0			
5.3.1	•	0			
		0			
5.2.5		9			
5.2.4	• •	8			
		• •			

APPENDIX	67
Appendix A Survey	68
Glossary	108

List of Figures

3.1	Taxonomic hierarchy of narrative forms	13
3.2	Blizzard Entertainment (2015). [WoW: Legion Cinematic Trailer]	15
3.3	Blizzard Entertainment (2016). [Pre-rendered cutscene in WoW: Legion] $$.	16
3.4	Blizzard Entertainment (2016). [Screenshot taken from a real-time cutscene in WoW: Legion featuring player character]	16
3.5	Blizzard Entertainment (2016). [Screenshot taken from an NPC dialogue in WoW: Legion featuring player character]	17
3.6	Blizzard Entertainment (2016). [Screenshot taken from quest description in WoW: Legion]	18
3.7	Blizzard Entertainment (2016). [Screenshot taken from various items in WoW: Legion]	19
3.8	Blizzard Entertainment (2016). [Animated Short "Harbingers - Illidan" in WoW: Legion]	20
3.9	Blizzard Entertainment (2016). [Page from official comics supplementing the storyline of WoW: Legion]	20

List of Tables

5.1	Weekly time spent playing games	31
5.2	Characters owned in-game (N=90)	31
5.3	Participant experience with WoW, calculated as percentages of selected responses (N=90)	32
5.4	Consumption of game narrative on a 7-item Likert scale of agreement (N=92)	36
5.5	Awareness of narrative system, calculated as percentages of selected responses (N=87)	37
5.6	Enjoyment of narrative system, sorted to display from highest mean to lowest (N=84)	39
5.7	Opinion on narrative overall on a 7-item Likert scale of agreement (N=87)	40
5.8	Enjoyment of expansion stories, sorted from highest mean to lowest (N=87)	41
5.9	Opinion on branched storytelling on a 7-item Likert scale of agreement (N=77)	42
5.10	Opinion on linear storytelling on a 7-item Likert scale of agreement (N=81)	43
5.11	Opinion on leveling on a 7-item Likert scale of agreement (N=81) \dots	45
6.1	Consumption of narrative, calculated as percentages of selected responses, sorted to display from highest to lowest. Aside from real-time and pre-rendered cutscenes switching places, all other forms rated the exact same as enjoyment	49
6.2	Narrative rankings in this study and overall ratingsranking for each expan-	
	sion of WoW on Metacritics (retrieved: July 8, 2021)	50

Chapter 1

Introduction

1.1 Motivation

Narratives are arguably everywhere [51] and the interest in studying them in different fields is growing. Although game narratives have been well-studied in both academia and industry (e.g., a game story "is something that video game players enjoy; it helps involve them in the game play, makes them feel more immersed in the virtual environment, and keeps them aroused" [55, p. 372]), the relationship between game narratives and player experience remains underdeveloped. In game studies, the narrative is typically considered a source of immersion as a player experience measurement [52, 27], but as recent studies have been drawing direct connections between game narrative and player experience [24, 75, 53], and theoretical works have been considering narrative as an immediate factor for positive player experience [48, 55], it is evident that game narratives have a direct impact on player's experience in a game. In this thesis, I explore this relationship between game narrative forms and player experience through an online survey study. The goal of my study is to inform game designers about creating different narrative forms.

In this thesis, I used World of Warcraft (WoW) as an example, and explored player preference for the game's different narrative forms to learn about the impact they have on player experience. WoW has been the most popular game of the Massively Multiplayer Online Role-playing Game (MMORPG) genre since its release in 2004 [3]. It has been continuously growing, with an estimate of more than 115 million players when this thesis was written in 2021 [45]. This overwhelming popularity has stimulated much academic work, focusing on various aspects of the game, such as social interactions [47], player avatars and characters [33], and player demographics [7, 75]. Several studies have discussed

the game's narratives as well [4, 23, 19], though—to the best of my knowledge—none has explored the impact of its narrative on player experience.

Many reasons made WoW the preferred example game for this thesis. WoW was first released in 2004 and has been updating and releasing new content regularly since then, providing me with ample narrative-centered game content as source material for this study. From this content, I was able to summarize the game's storytelling as a system of 11 different narrative forms, which—to my knowledge—is the highest number of different forms in any game. Thus, studying WoW presented me with likely more generalizable findings than other games. Also, almost all gameplay elements WoW features can be found in games of other genres, making it possible to extrapolate findings from this study to other games. Moreover—as narratives in WoW's recent expansions have been controversial [36, 41]—I anticipated that players may have many strong opinions about the game which provided me with rich data and valuable insights.

While game narrative itself is often an interactive storytelling form, the WoW narrative consists solely of non-interactive fragments of narrative that players simply consume. That is—unlike interactive story games such as Detroit: Become Human—WoW does not provide players with choices (i.e., a branching narrative) that affect the outcome of the storyline but consists of linear pieces [62]. WoW tells its stories in fragments breaking down a prewritten overarching linear storyline, mixed in with gameplay and spread across the virtual world. These fragments usually vary in their forms (e.g., visual & textual), locations (ingame and out-game), and interactivity (automatic and manual), and they connect to form a coherent system. They are effective in creating narrative, but they heighten the divide between narrative and gameplay [21]. As an MMORPG, WoW is centered on a narrative but is playable without it [28]. While the game allows players to skip the narrative, it is uncertain what impact skipping narrative fragments in whole or in part may have on player experience with the game.

1.2 Aims, Goals, & Research Questions

The ultimate goal of this thesis is to create guidelines to help designers of any game present fragmented narratives in a more optimized way, and, therefore, create more positive experiences for the players. To that end, I examined the various forms of non-interactive narrative currently existing in WoW, proposed a structured overview of the narrative system consisting of 11 forms. I created a hierarchical distinction between in-game (i.e., internal) and out-of-game (i.e., external) narratives, and conducted an online survey study among WoW players to learn about their experience and preference for the game's narrative. I

was specifically interested in whether and why they choose to skip narratives in the game. In Chapter 4, I provide a taxonomy of these forms and an example of how the fragmented narrative works as a system using a linear storyline in WoW.

I designed an exploratory survey study to attain a deeper understanding of players' experience and preference for the game and its narratives. The proposed hierarchy was tested through player awareness, enjoyment, and consumption, so that game designers may refer to this model for the distribution of story information in the fragmented narrative.

This thesis aims to answer two main research questions, with a number of sub-questions discussed in Chapter 4:

RQ1: What impact does the fragmented, transmedial narrative in World of Warcraft has on player experience?

RQ2: What experiences and preferences do players have for the narrative in World of Warcraft?

1.3 Structure of this thesis

This thesis is organized as follows: The current chapter offers an introduction into the problem space. Chapter 2 summarizes and provides a background to concepts mentioned in this work, including transmedia storytelling and narrative forms, as well as introduces previous research done in game narratives and player experience. Chapter 3 provides a taxonomy of the 11 narrative forms found in WoW, and an example of how they work together to present the whole story. Chapter 4 presents the study design and methodologies, with some discussions on how certain questions in the survey may be generalized beyond WoW. Chapter 5 presents the results of the study, Chapter 6 discusses the implications of the results in regards to my research questions and objectives, the limitations of this research, and opportunities for future work. Chapter 7 concludes this thesis and suggests some guidelines for game designers stemming from the insights gained during my study.

1.4 Results & Contribution

This thesis contributes an empirically validated structured overview of non-interactive narratives in WoW and a deeper understanding of its players to the User Experience and

Games User Research communities. The survey results show that players are fully aware of the various forms of narrative currently existing in WoW, and make decisions to consume or skip narratives based on their own preferences and expectations. These findings suggest that game designers should always prioritize in-game, higher-fidelity, and automatic narratives in distributing their most important story information. They should also create backup plans such as out-game narrative sources. Furthermore, this study provides quantifiable measures of the priority of narrative forms through its consumption percentage. I believe these findings are valuable in creating positive future player experiences around game narratives.

Chapter 2

Related Work

Game narrative, or "playable story" [54], differs from traditional storytelling methods such as a novel in book form and motion pictures in which viewers situate themselves outside the narrative [31]. The unique characteristic of a game narrative is that it incorporates the player's presence as a part of its narrative. It is impossible to make any generalization about game narrative, because many diverse games and innovations in their storytelling methods exist. However, in an MMORPG—which this thesis focuses on—players "role-play" as a character in the narrative. They experience the narrative in first-person. Their purpose is not to "beat the game" but to "observe the evolution of the storyworld" [54]. While not all games require narratives to be playable, and some are even incompatible with narratives [28], the MMORPG genre is—by definition—built upon narratives.

2.1 MMORPG

Massively Multiplayer Online Role-playing Games (MMORPGs) as the name suggests have some key characteristics: massive, multiplayer, online, role-playing. Defined by Achterbosch et al. [1], an MMORPG is a network-based, three-dimensional, interactive, narrative environment that is permanent and consistent. The narrative aspect—which is what this thesis focuses on—refers to the pre-determined plots these games usually follow and which is a key characteristic of role-playing games [58]. Players of an MMORPG create avatars and interact with both the game environment and other players in real-time online. Aside from social interactions and communications, players complete game objectives through collaboration against the game environment (PvE) or competition (PvP) [66]. MMORPGs focus on character growth and progression, as these games commonly reward players with

increased levels, character power upgrades, in-game items (equipment and cosmetic items), and repeat this process to provide players with new challenges [1, 57].

2.2 World of Warcraft

WoW is currently the most populated MMORPG on the global market [3, 45]. With its popularity, this game has spun research on its many aspects, with the majority of academic work focusing on the role-playing aspect and online interactions in the game. The sense of being there in the world of the game has been argued to stem from the relationship between the player and their "locus of manipulation", where the "locus of manipulation concurrently embodies the player's intentions as their avatar within the gameworld, and limits the possible actions to the suite of characteristics, functions, and narrative background that constitutes them as a separately embodied character" [6].

The role-playing aspect in WoW allows players to portray themselves with virtual avatars of distinct races and appearances, dressed with clothing and armor pieces from a wide selection of pieces. Studies have found that players tend to use these avatars to depict an idealized version of themselves in game [8], but their character naming practices show that "players use carefully created character names to develop a persistent, pragmatic identity to maintain social relationships across games" [17]. A possible driver for this is the players' "discomfort with the blending of spheres that set different conditions for identifying oneself and socializing with each other" [2]. Players' appreciation of their in-game avatars, when compared to their perception of their actual self, also stands to signify their depression and self-esteem levels [8]. In addition, Wong et al. [73] studied how allowing others to use a person's WoW character, so-called character sharing, is a common (but forbidden) practice of collaboration in the game. Moreover, despite being virtual, these avatars are often imbued with real personality, as players consistently express themselves with behavioral cues that reflect trait definitions of standard personality factors. "For example, players who score high on Extraversion prefer group-oriented activities. And players who score high on Agreeableness use more positive emotes and prefer non-combat activities" [74]. In addition to avatars, past research also shows that players value digital game objects the most in Role-Playing Games, specifically for the enjoyment and utility they provide in these games environments [64]. WoW fosters the collection of digital game objects, such as pets and armor sets, which has been studied as an appealing aspect of collection mechanics in digital games [65].

As an online game, the social interactions between players is also a major component [14] and research focus [16]. This is particularly important because WoW features

social affordances that contribute to community development and social experiences [18]. WoW provides players with game content that requires collaboration and/or competition in the forms of PvE and PvP gameplay, and promotes social interactions through players guilds and groups [46, 16]. More importantly, the virtual world the game provides has created a safe space for players to express themselves purely based on their personality, with little regard of their real-life identities [37]. Thus, the game has been a sanctuary for marginalized and oppressed players such as the LGBTQ+ groups [39]. Studies have found that these online interactions can greatly reduce players' loneliness and improve their social competence in real life [71] because playing the same game already provides a common ground for communication. Players share similar interests and experiences with computer games and these communications often result in forming high-quality relationships that satisfy the players' need to belong [37].

2.3 Narratives in World of Warcraft

The story of Azeroth is paramount to WoW as a central motivator of gameplay and for the quests and raids that guide players by slowly unfolding to reveal pieces of the story's puzzle [19]. In the game, through a regular release of new expansions, WoW reveals further lore, provides more worldbuilding, and a deepening backstory for the characters. Outside the game, comics and novels exist that collectively deepen the worldbuilding, increasing immersion for many players. Many of the game's characters have complex motivations and histories, making them more realistic and relatable to the players.

Similar to this thesis, WoW was selected as the subject of a transmedia narrative study by Strauss [59], primarily because its game development methodology with mostly pre-determined content delivery provides a library of transmedial materials for the study. Through a literary analysis, Strauss concluded the game's narrative delivery in three forms: (1) pure narrative deliveries and augmentations through quest texts, in-game dialogue, aesthetic representations and themes, in-game cutscenes, and a wide selection of transmedial materials outside of the game; (2) purely ludic contents such as high-level challenging dungeons and raids, as well as PvP combats; and (3) a fusion of both, as some "ludically lucrative" activities demanding less player power to provide space for narratives. Strauss praised that WoW is a complex construction that makes use of an array of multimedia tools to flesh out its experiences, and "the use of multimedia constituents is a strength of this genre due to its ability to extend its expressions through a multitude of motifs, player interactions, and possible inspirations for the creative works behind the game's fiction." [59]

Krzywinska [32] described the narrative in WoW as "dispersed, perspectival, multi-

leveled and non-linear", as the overarching narrative portrays the persistent world which cannot be affected by player actions [23]. However, it also incorporates micro-narratives, such as race-based or class-based stories, unique to each character. Krzywinska compared the narrative of WoW and the TV show Buffy the Vampire Slayer, and concluded that the continuous nature of WoW's narrative parallels that of TV shows in the delivery of a long, pre-determined, and ongoing overarching storyline over multiple expansions/seasons through individual and self-contained episodes/questlines. At the same time, it differs greatly as show viewers can choose to miss a few episodes. They can even begin the show somewhere other than the very first episode. In contrast, WoW players always begin at the very beginning of the game where the cinematics provide background info to the world's state of affairs. Similar to the concept of the fragmented narrative discussed in this thesis, Krzywinska described the delivery of narrative in WoW as "more piecemeal and non-linear". Many components of the narrative have to be read into the organization and content of the world because the narrative is not intended to be easily grasped. Rather, it is to be pieced together through the course of multiple activities and close readings of quest and other textual features [32].

2.4 Narrative studies in games

Many previous works call for increased study of user experience in game narratives, and suggest that such work could be integral to understanding the player more closely when designing such narratives.

Game narrative as a form of interactive storytelling, differs from traditional storytelling in its re-readability. In traditional storytelling, the rereading experience depends on the readers themselves because the story text remains the same. However, in interactive storytelling, the readers' choices may lead to encountering different story texts. In a case study, Mitchell et al. [44] found that readers reread the story partially to find closure soon after the first read, or reread fully to re-experience the story at a future point in time.

Gameplay is another unique aspect of the game narrative. Pure narrative elements such as cutscenes or scripts present game events that are determined before the game is played. However, gameplay presents events while players play the game and these ludic events are more precisely characterized as simulations instead of narration [60]. Game studies researchers, such as Juul [29] argued that games do not require narratives because this simulation aspect of games invites players to follow the pre-determined plotline but gives them the freedom to not follow the story and still play the game. In contrast, Thon [61] argued that this aspect creates two narrative presentations in games, a local

presentation that cues players into imagining fictional entities situated in fictional worlds, and a global presentation that expands fictional worlds beyond the games themselves, namely transmedially.

2.4.1 Transmedia storytelling and Worldbuilding

Transmedia storytelling is a concept introduced by Jenkins as the phenomena of a narrative spawning across two or more forms of media, being told through each one of their media-specific approaches instead of being contained in only one medium [26]. According to Jenkins [25], transmedia narrative takes advantage of each medium's strengths, thereby strengthens the text. For example, "a story might be introduced in a film, then expanded through television, novels and comics, and its world might be explored and experienced through gameplay." Furthermore, it was noted that stories told in each medium should be self-contained enough to enable autonomous consumption, which means no consumption of one medium should be mandatory for the consumption of another, and that no media should be privileged over another.

Transmedia storytelling usually accompanies worldbuilding. For a franchise to strive and maintain popularity over an extended period of time, it is imperative to build a rich world that is relevant to the audience [72]. Take the Marvel Cinematic Universe (MCU) as an example, the MCU focuses mainly on its theater releases, but at the same time produces short films, television shows, spin-off comics, and community events. The transmedia efforts of MCU provide the audience with an enriching experience and continuous engagement during the release gap of movies. Furthermore, the transmedial narrative of MCU uses consistent references and reappearances of characters, organizations, events, and locations, enhancing the experience of audience who chooses to consume more media. While appraising the MCU's effort on keeping the continuity, Menard [40] criticized the MCU's clear preference for movie platforms to others, illustrated by the fact that contents in other media were constantly referencing events and characters happening in the movies, and whose plots have been largely driven by the movie plots, while the reverse has never happened in the movies.

2.4.2 Game narrative and Player experience

In addition to telling a pre-determined story, interactive narrative games usually allow players to participate in the narrative and create their own narrative experience. This poses a great challenge to the measurement of player experience because the combination of narrative and interactivity creates a great variety of experiential dimensions that affect player responses to games [53].

Roth et al. [52] designed a 12-item scale to measure the user experience in games, including Agency(usability, effectance, autonomy), Immersion(flow, presence, role-identfication, curiosity, suspense, believability), and Transformation(eudaimonic appreciation, affect, enjoyment), and described a successful interactive narrative as one that "provides a convincing experience based on a sufficient level of stimuli in the categories of agency, immersion and transformation". In this scale, both agency and transformation come from the gameplay, while the immersion mostly comes from the narrative and aesthetics of the game.

Furthermore, Ng et al. [48] conducted and analyzed multiple case studies and concluded with 15 recommendations for a positive gaming experience:

"(i) user preference, (ii) user capability, (iii) pacing difficulty, (iv) providing goals, (v) providing rewards, (vi) interactive game environment, (vii) graphic quality, (viii) fantasy, (ix) good narrative, (x) interesting characters, (xi) reducing lagging, (xii) flexible options, (xiii) good game interface, (ivx) tutorials and hints, and (vx) ease of user controls. These recommendations are the main elements that affect user's behaviour and emotional responses during the course of the game, which in turn affects their gaming experience."

2.5 Summary of research gap

After reviewing related literature, I identified three research gaps that I will study and discuss in this thesis:

- 1. No study-tested methodology exists to research the impact of game narratives on player experience.
- 2. Previous literature has rarely explored the consumption and enjoyment of multimedial and transmedial narrative forms.
- 3. It is unknown whether players are willing to create additional characters for the sake of experiencing different storylines or re-experiencing the same storylines.

Most existing player experience measurements collect player responses using self-report questionnaires or interviews. Examples are an early assessment of interactive digital narratives [53] that led to a "toolbox for the evaluation of the user experience" [52], qualitative

assessment of interviews and scene logs with dialogue [56] or phenomenological methodology [43] in Façade, exploratory and confirmatory factor analysis of an immersion questionnaire [50], standardization attempts for self-report scales in the game Fahrenheit [70], exploring structure and progression mechanics in interactive narrative [12], development of a standardized player experience inventory (PXI) questionnaire with construct validity across a wide range of digital games [67, 68]. Therefore, it is uncertain whether the same methodology could be replicated in a study specifically about the impact narrative has on the player experience, especially on the MMORPG genre with a large content library.

WoW uses many different forms of narrative as part of the player experience, multimedially and transmedially. However, previous literature focused mostly on identifying these forms and discussing their individual pros and cons, rarely any explored the consumption and enjoyment of them. Therefore, it is uncertain what narrative forms players prefer to consume. Furthermore, as it has been illustrated that the MCU has a clear preference for certain media than others, it is unknown whether WoW has a similar preference on its narrative forms, and what impact it has on the players' experience.

WoW is a progress-based game. Nearly all quests in the game can be played only once. Therefore, to "re-read" the game's story, a player cannot simply "rewind" to a certain part of the story. Instead, they must start a new character from the beginning of the game. This differs from text-based narratives studied by previous literature as partial rereading is impossible in this game. Therefore, it is uncertain whether players are willing to create Alts for the sake of experiencing different storylines or re-experiencing the same storylines.

Chapter 3

A Model of the Narrative System in WoW

In this thesis, I propose a structured overview of the narrative system consisting of 11 non-interactive narrative forms currently existing in WoW, namely a hierarchical distinction between in-game and out-game narratives, and conducted a player survey to establish construct validity. In this chapter, I present a taxonomy of the forms, a brief definition of each narrative form as a component in the narrative system, and an example of how they work as a whole to present the narrative.

3.1 Taxonomy of Narrative Forms

In this section, I provide a taxonomy of narrative forms which categorizes the 11 forms of narrative currently in the game, as shown in Figure 3.1: Cinematics, Pre-rendered cutscenes, Real-time cutscenes, Automatic voice-based dialogues, Optional voice-based dialogues, Text dialogues, Quest description text, Flavor text, Non-game animations, Comics, and Novels.

The narratives are broken down into two categories, internal and external. Internal narratives are the ones mainly accessed in the game, and external narratives outside the game. Sometimes certain internal narratives may be accessed outside the game as well, such as used as advertisement material [49]. Such cases do not alter their main purpose as in-game narratives, therefore are not taken into consideration.

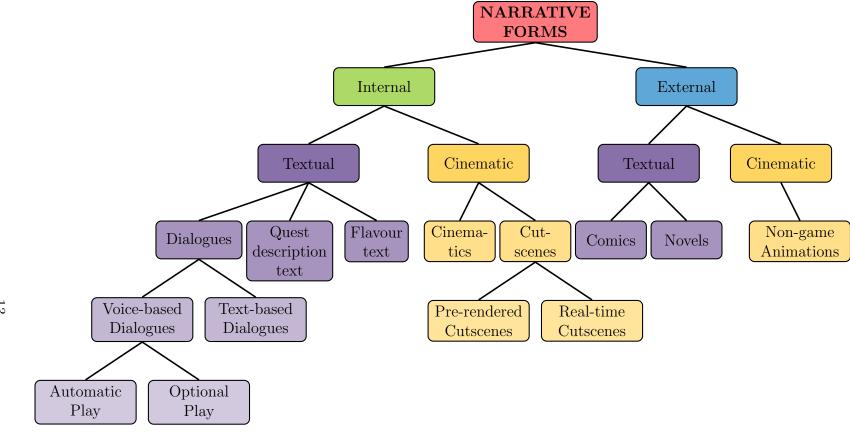


Figure 3.1: Taxonomic hierarchy of narrative forms

In each category, the narratives are further distinguished by their presentation methods, into two sub-categories of cinematic narratives and textual narratives. Cinematic narratives feature mostly graphical, visual storytelling with little to no text; while textual narratives use text and speech to present the narrative [21].

Some narrative forms share both cinematic and textual qualities, such as voice-based dialogues that may sometimes also include cinematic elements including character movements and interactions with the environment (gameplay), and comics featuring both text dialogues and graphical storytelling. Cases like these are also reflected on the taxonomy, as the ordering naturally placed them in places centered between both categories.

The elements in the taxonomy are arranged based on the following logic:

- Narratives using higher-fidelity assets (examples in Section 3.2) are placed on top;
- Narratives easier (require less player action) to access are placed on top;
- A clear distinction of narratives accessed in-game and out-game is drawn.

For example, cinematics are placed higher than cutscenes, as they feature higher-fidelity, lifelike, film-grade assets, and are automatically presented to players when the game is opened for the first time, while cutscenes require players to progress with the game in order to experience.

In the next section, I provide a brief definition of the narrative forms. Image examples included are published material or in-game screenshots were taken with a character created by the researcher (Derrick Wang). To avoid story spoilers for the readers, all materials come from the introductory questline of WoW: Legion, an expansion released in late 2016 whose content only exists in the current game as an optional experience.

3.2 Internal narratives

The majority of narrative forms discussed in this thesis are accessed in the game and presented to players as they progress through the game, therefore I categorize them as internal narratives.

3.2.1 Cinematics

With every expansion, the game releases at least one film-grade cinematic (see Figure 3.2), usually as the expansion's trailer. In the game's past expansion, Battle for Azeroth, a portion of the War Campaign was also portrayed in this fashion. The cinematic trailers are presented to players when they first open the game client, or manually select to view on the login screen. They are also used in reveal announcements and uploaded to WoW's official YouTube channel. The cinematics is usually made with high fidelity, film-grade assets, and animated through motion capture to appear more life-like.



Figure 3.2: Blizzard Entertainment (2015). [WoW: Legion Cinematic Trailer]

3.2.2 Cutscenes

In-game cutscenes are made with in-game assets such as character and environment models and are usually played during the game. They also serve as trailers for in-expansion patches. There mainly exist two kinds of cutscenes: pre-rendered and real-time. While cutscenes play, players may press the ESC key to skip them.

Pre-rendered cutscenes

Pre-rendered cutscenes (see Figure 3.3) use more refined versions of in-game models and usually feature motion-captured animations and custom camera movement.

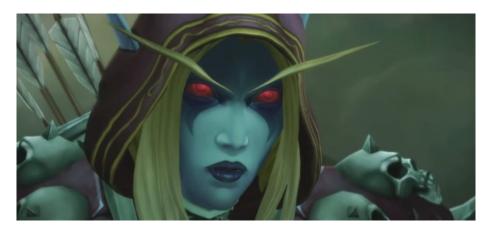


Figure 3.3: Blizzard Entertainment (2016). [Pre-rendered cutscene in WoW: Legion]

Real-time cutscenes

Real-time cutscenes (see Figure 3.4) use in-game models players see and interact within the game, and usually involve the player character (therefore unable to render in higher quality). In the game's current expansion, Shadowlands, a small number of new real-time cutscenes have featured lip sync as well.



Figure 3.4: Blizzard Entertainment (2016). [Screenshot taken from a real-time cutscene in WoW: Legion featuring player character]

3.2.3 Dialogues

Dialogues are very common in the game, often triggered by player actions such as accepting or completing a quest with a quest giver NPC. In addition to supplemental narratives, dialogues sometimes also provide instructions to help players complete quests (see Figure 3.5) or additional narratives. Dialogues can be voice or text-based. Unlike cutscenes which temporarily seize player control, players may freely move their characters during dialogues, and they can skip them simply by walking away.



Figure 3.5: Blizzard Entertainment (2016). [Screenshot taken from an NPC dialogue in WoW: Legion featuring player character]

Automatic dialogues

Often as players accept or complete a quest, the quest giver NPCs automatically plays a dialogue. Sometimes if a quest involved NPC too, dialogues may be triggered automatically by progress or location.

Optional dialogues

Sometimes NPCs may have an option such as "stay awhile and listen", and players can choose to select that option to trigger dialogues that provide additional narratives. Unlike automatic dialogues, these dialogues require players to specifically trigger them.

3.2.4 Text

There also exist a large amount of textual narratives in the game, including quest descriptions and flavor texts. Textual narratives are ones written and spoken, with little to none visual content beyond themselves [21], therefore dialogues that accompany character movements and animations are considered a hybrid of both cinematic and textual narratives, and placed in the center of the taxonomy. These forms of narrative provide a lot of background information for worldbuilding purposes.

Quest descriptions

The quest interface (see Figure 3.6) often consists of the quest's title, objectives, rewards, and a description in the form of a dialogue, which provides players with background narratives for the quest and justifications to accept the quest from the specific quest giver's perspective. In early stages of the game, players were expected to refer to the quest description solely for instructions (e.g. directions to go) to complete quests.



Figure 3.6: Blizzard Entertainment (2016). [Screenshot taken from quest description in WoW: Legion]

Flavor text

Aside from quests, there also exist items in the game, both in the players' inventory or in the world that players can view and obtain additional information about the game's story/lore (see Figure 3.7).



Figure 3.7: Blizzard Entertainment (2016). [Screenshot taken from various items in WoW: Legion]

3.3 External narratives

There also exist several forms of narrative accessed outside the game, therefore, I categorize them as external narratives.

3.3.1 Non-game animations

Accompanying the announcement of each expansion, a number of animated shorts will be released, providing some background information on main characters or plotlines preceding or following in-game events (see Figure 3.8). Depicted in a motion-painting style, these animated shorts distinguish themselves from cinematics and cutscenes aesthetically.



Figure 3.8: Blizzard Entertainment (2016). [Animated Short "Harbingers - Illidan" in WoW: Legion]

3.3.2 Comics

Occasionally, official comics may be published to provide supplementary, background information for in-game events, or subplot stories for some characters.



Figure 3.9: Blizzard Entertainment (2016). [Page from official comics supplementing the storyline of WoW: Legion]

3.3.3 Novels

Similarly, novels and other forms of texts are published to provide subplot stories or depict world events that otherwise would only be referenced (or even not at all) in the game.

3.4 Example of the narrative as a system

In this section, I break down the plot synopsis of the introductory storyline in WoW: Legion, and explain in which form each part of the storyline was told, as a demonstration of how the fragmented narrative works in WoW.

Demonic invasions spawn throughout Azeroth, with both the Alliance and Horde fighting to defend their lands [Gameplay: limited-time in-game event].

Khadgar begins researching ways to sever the Legion from their source of power at the Tomb of Sargeras, consulting with the newly awoken Magni Bronzebeard. Magni declares that his innate connection with the land during his slumber has allowed him to communicate with the nascent Titan slumbering within Azeroth [Official comics *Magni: Fault Lines*].

Only by using the five Pillars of Creation, incredibly powerful Titan artifacts, can the forces of Azeroth drive back the Legion. Khadgar teleports the Kirin Tor capital city of Dalaran to the tower of Karahzan to further his research [Animated shorts *Harbingers - Khadgar* and in-game real-time cutscene].

Faced with an increasing number of demonic attacks, the Alliance, Horde, and Argent Crusade prepare to launch an invasion with naval, air, and ground forces to the Tomb of Sargeras on the Broken Isles [Cinematic trailer].

The demons mislead the Alliance and Horde as to the size of the demonic army present at the Tomb, manipulating them into far underestimating the size of the demonic host [In-game pre-rendered cutscenes and several quest descriptions].

Although they make initial headway against the demons, the heroes of Azeroth are unable to prevail: the majority of the Argent Crusade is destroyed before the Horde and Alliance arrive, and both factions lose their primary leaders in the process [In-game dialogues and quests].

3.4.1 WoW storytelling methods

In addition to the fragmented storytelling method, this thesis also explored player preference towards the three other methods that WoW has utilized recently.

Faction-separate storytelling

WoW's core gameplay revolves around two playable factions: the Alliance and the Horde. As the two factions are designed to be in constant conflict, players of a faction are often subjected to different versions of a story if both factions are present in one zone with different objectives. For example, in Ashenvale, the Horde's objective is to cut down trees and the Alliance to repel the Horde from the forest, therefore Horde players are tasked to defend the encampments from Alliance attacks while Alliance players are to sabotage Horde operations. In Battle for Azeroth expansion, players of each faction received three zones with independent stories, meaning Alliance and Horde players experience completely different storylines.

Branching storytelling

In the Battle for Azeroth expansion, Horde players received a certain questline that involved siding with either of the two characters in the story. By making a choice at certain point of the story, players proceeded to experience one of the two versions of the storyline. Although players received the same item rewards regardless of their story choices, there is no way to learn about the alternative story on the same character.

Linear vs. non-linear storytelling

In early expansions, players experience the story of WoW in an order of their choice, as the zones are independent to each other and can be completed in any order. In the game's newest expansion, Shadowlands, players' first character are required to go through a linear storyline known as the main-story campaign, which mandates players to follow a single storyline across all zones in a pre-determined order.

3.4.2 The Whole Picture

As demonstrated above, the story of WoW is not only distributed in fragments across multiple media and forms, but also different based on how players choose to play the

game. If players wish to experience the entirety of the story in the example above, they will need to not only play the game using multiple characters, but also watch the cinematic trailer, animated shorts, and comics. It is unknown what impacts missing certain parts of the narrative (for example, the comics provided some background information on certain characters that frequently appear in the story, and if missed, players will have little to no understanding of their identities and their motivation to involve in the events happening in the game) may have on the players' experience with the game and its narrative. Chapter 4 details the user study conducted to learn more about players' experience and preference for the game's narrative.

Chapter 4

Method

The main goal of this thesis is to explore the relationship between WoW's narrative to players' experience and further understand their preferences for the game's narrative. To that end, I proposed a structured overview of the game's fragmented narrative, then used a mixed-method featuring one online survey, collecting quantitative data for a more general and broad overview of player experiences and preferences, and qualitative data for more in-depth understandings of reasons to these experiences and preferences, and ultimately compile the findings into guidelines for game designers. Due to the exploratory nature of this study, and the lack of existing literature providing reliable hypotheses, the survey mainly aims to learn of players' behaviors regarding to narratives in WoW, so that future research may further investigate the reasons behind them.

This thesis aims to address the following research questions, as outlined in Chapter 1:

RQ1: What impact does the fragmented, transmedial narrative in World of Warcraft has on player experience?

- RQ1.1: How many of the 11 forms of narrative are players **aware of**?
- RQ1.2: How do players **consume** them?
- RQ1.2.1: What are the reasons players **skip** narrative?
- RQ1.2.2: After players skip, what **alternative sources** do they have to learn about the game's story?
 - RQ1.3: How much do players **enjoy** them?

RQ2: What experiences and preferences do players have for the narrative in World of Warcraft?

RQ2.1: How important do players consider narrative to their game experience?

RQ2.1.1: What **aspects of the game** do players enjoy?

RQ2.2: How much do players like to have a variety of storytelling?

RQ2.2.1: How do players like **faction-separated** storytelling?

RQ2.2.2: How do players like **branching** storytelling?

RQ2.2.3: How do players like **main story** storytelling?

RQ2.3: What is the players' preference for **cutscenes**?

RQ2.4: How do players perceive the relationship between leveling and narrative?

RQ1 aims to learn whether players are aware of the existence of the 11 narrative forms proposed in this thesis, how much they have enjoyed, and how they choose to consume or skip each of them. In situations where players decide to skip the narrative in-game, RQ1.2.2 aims to learn whether they would still consume the story from alternative sources.

RQ2 aims to understand the players' experience with the game and its storytelling. The survey asks about players' opinions on specific storylines in the game, including one that features separate stories for characters of different factions, one that features story branches following players' choices, and one that features linear storytelling for the first time, instead of the usual independent storylines players can experience in any order. Moreover, one set of questions were asked to learn of the players' preference for cutscenes which can be pre-rendered or in real time. Moreover, RQ2.1.1 aims to learn of players' reasons to play WoW to see whether there exists players that play the game for reasons other than the story, and if so, future research may look into the possibility of tailoring the story to these players' interests.

I had little existing literature to help formulate hypotheses. However, given that cinematic narratives have several advantages against textual ones, as demonstrated by Domsch [21], I hypothesize that:

H1 (to RQ 1.1 and 1.2): Players are more aware of and more likely to consume more cinematic narratives than textual ones.

H2 (to RQ 1.3): Players enjoy cinematic narratives more than textual ones.

H3 (to RQ 2.3): Players prefer pre-rendered cutscenes to real-time ones for pre-rendered ones are more cinematic.

To answer the above research questions and test the hypotheses, I conducted an automated survey study to explore players' experience and preference for the narrative in

WoW. For the exploratory nature of this study, the survey was designed with a portion of open-ended questions for participants to provide insights further than the examples given by the questions. The online survey was operated by Qualtrics®/University of Waterloo (see Appendix A).

4.1 Participants

The survey was run from February 11 to February 28, 2021. A total of 105 responses were received from participants recruited through advertisement on WoW Reddit, Wowhead, official Discord servers, and HCI Games Group social media accounts. For analysis purposes, each participant was assigned a random participant number (from P1 to P105) that does not indicate the order of participation, and will be tied to anonymous quotes referenced in Chapter 5. In order to preserve the quality of the data collected, 10 empty or incomplete responses were excluded. As the survey was divided into individual sections not related to one another, if a participant had at least one section fully completed, the data was recorded and analyzed.

The recorded data consists of 95 participants (31 female, 60 male, four non-binary). While this study does not specifically aim to study the correlation between gender and narrative preferences, I discovered that the distribution of player gender among participants to the survey seems to align with recent public reports [74, 15]. The majority of participants (67 out of 95) fall into the age group between 18 and 34 years old. Seventy-three participants reported their main characters' information, of which 49 participants were from the Americas region and 24 from the Europe region.

4.2 Procedure

After reading and accepting an online informed consent form to participate in the study and consent to the use of anonymous quotes for research purposes, participants filled out an online survey using the Qualtrics platform, which included the following sections (A copy of the survey can be found in Appendix A).

- 1. Character information (optional)
- 2. Demographic information

- 3. General survey
- 4. WoW player statistics
- 5. WoW narrative experience
- 6. Narrative forms
- 7. Storytelling-specific questions
- In (1), participants were encouraged to provide their main characters' region, server, and name, and give consent for the researchers to access their public profiles on WoW's website for research purposes (the character profiles' potential value to the research is discussed in Chapter 6). Participants were also given the option to provide their Battle.net ID which is a virtual identifier that does not associate with the participants' real personal information in any way, but allows me to contact them for the prize draw. If a participant had wished to not provide any information, they were also given the option to exclude themselves from the prize draw by not providing contact information.
- In (2), participants were asked to report their age from a selection of age groups, and the gender they were most identified with.
- In (3), participants were asked to report up to 3 games they have enjoyed in the past, aspects of the games that they have enjoyed, and preferences on the games' storytelling on a 7-item Likert scale. This section was designed to help better profile participants to help distinguish between ones that generally care/do not care about game narrative and ones that care/do not care about WoW's narrative for specific reasons.
- In (4), participants were asked to report some statistics, including the length of their playing (in years), whether they are still actively playing, weekly time spent on playing on WoW and other games, numbers of characters and max-level characters on WoW, preferred methods of leveling, and aspects of WoW they enjoyed/disliked.
- In (5), participants were asked to rate their experience with the game's narrative on a 7-item Likert scale, both overall and expansion-specific experiences.
- In (6), participants were first introduced to all 11 narrative forms with some examples provided similar to those in Chapter 3, then asked to report whether they were aware of each of them, whether they watch/read or skip them. Then, participants were asked to rate the 11 narrative forms on their experience. This section was designed to address RQs 1.1-1.3.

In (7), specific questions were asked to address RQ2 and its sub-questions. Participants were asked to report top reasons they skip certain parts of the game's story, and whether they would look for story-related content outside the game.

Then participants were encouraged (due to spoiler reasons) to report their preferences on branched storytelling, faction-separate questlines, main story campaigns, and cutscenes. Finally, participants were asked about their preference for leveling and narrative. While these questions appear to be specific about WoW, they were selected to reflect certain play styles that can be found in many other games. Through these questions, I aim to learn:

- Branched storytelling: whether and how players would choose to **play multiple times** to fully experience the story.
- Faction-separate (i.e. character-specific) storytelling: how important experiencing the full story is to players and how that would encourage them to create multiple characters.
- Main story campaigns: players' preference between linear storytelling and independent storytelling.
- Leveling and narrative: how narrative and other aspects of the gameplay interact with each other.

Upon completing the survey, participants received the completion feedback letter. After the study concluded, a draw was made among all participants who have selected to enter the prize draw for 3 \$150 Blizzard gift cards. This study was reviewed and approved by the University of Waterloo Office of Research Ethics.

4.3 Analysis

This study used a mixed-method to collect both quantitative and qualitative data from the survey. For the quantitative portion of the study, results are reported in the form of calculated mean, median, standard deviation, and/or percentage.

For the qualitative data from open-ended questions and participant comments, I applied a thematic analysis methodology to extract frequently mentioned keywords to formulate themes. Due to the exploratory nature of this study, I decided to follow the data-driven inductive approach, which means the themes identified are strongly linked to the data itself, rather than preconceptions. The analysis report in this thesis was written following the six-step approach from Braun and Clark [11]:

- 1. Familiarize with the data
- 2. Generate initial codes
- 3. Search for themes
- 4. Review themes
- 5. Define and name themes
- 6. Produce the report

As the responses were short sentences that directly answer the survey questions, the coding process was straightforward and conducted by one researcher, therefore did not require multiple iterations or conflict resolution.

In Chapter 5, I will provide a thorough report of the results, and in Chapter 6, I will discuss the key findings and how they could inform game designers and researchers.

Chapter 5

Results

In this chapter, I report the study results for each research question and break the data down in preparation for drawing insights into how this work could inform game designers and researchers.

5.1 Understanding the players

One of the main objectives of this study is to reach a better understanding of players. The survey was designed with a number of questions aiming to collect participant demographics to help paint a picture of the kind of players taking part in this study. In this section, I present the survey results, broken down into sections of various themes.

5.1.1 WoW player profiling

A series of demographic questions regarding participants' identity as WoW players were asked, including the players' experience with the game in terms of years played (0-16) and numbers of characters owned (multiple-selection from range groups). Among 92 participants, 86 were reported to be still actively playing. The majority of participants were experienced players, reporting an average of 10.08 (SD = 4.89) and a median of 11 years playing the game.

One initial side objective of this study was to explore whether veteran players who have played for many years perceive the game's narrative differently than players that are

relatively new to the game. However, as this particular sample consists mainly of players with over 10 years of experience with the game, I was ultimately unable to make the comparison.

Weekly hours	WoW	Other games	Sum
0 - 5	6	36	0
6 - 10	17	26	6
11 - 15	19	15	10
16 - 20	12	6	18
21 - 30	18	3	12
Over 30	12	3	42
Total	84	89	89

Table 5.1: Weekly time spent playing games

As shown on Table 5.1, nearly half of the participants have reported spending over 30 hours a week playing games. Among which, 76 reported playing more WoW than other games.

Count	Characters	Max. level characters
0	0	1
1	2	8
2 - 5	20	39
6 - 10	16	15
11 - 15	9	15
Over 15	43	12

Table 5.2: Characters owned in-game (N=90)

Table 5.2 shows that almost all participants own multiple characters under the same, with around half of the participants owning more than 15 characters. Within which, however, only 12 reported to have more than 15 characters at maximum level (level 50, or level 120 before the system overhaul that happened in October 2020 with the release of Shadowlands expansion). A preliminary behavior pattern of creating multiple characters without first leveling existing characters emerges from this data, and I will discuss this further later in Section 5.3.5.

5.1.2 Experience with WoW

Participants were asked to report on aspects of WoW they have enjoyed and disliked. Similar to Section 5.1.3, participants were given two multiple-answers questions with four pre-selected answers (Story, PvE Battle, Social, PvP Combat) and one Other option allowing text entry to further elaborate their reasoning in, or provide more details on why they have reported enjoying/disliking certain aspects of the game that they did. For the dislike question, a None option was added. Of course, one participant may report multiple aspects of the game they have enjoyed/disliked, and may also report enjoy and dislike on the same aspect, provided they elaborate to justify the inclusion. The responses are as follows:

Aspects	Enjoy	Dislike
Story	93	5
PvE Battle	92	4
Social	73	18
PvP Combat	40	48
Other	19	34
None	N/A	22

Table 5.3: Participant experience with WoW, calculated as percentages of **selected** responses (N=90)

Among participants who reported Other aspects of the game, a number of frequently mentioned keywords were found:

• Enjoyment

- Collection of achievements, pets & mounts, cosmetic items, etc. (10)
- Aesthetics (4)
- Exploration (3)
- Challenges (2)

• Dislike

- Toxicity (11)
- Lack of developer-player communication (6)

- Repetition/Grind (5)
- Monetization (3)

87 participants provided additional comments/elaboration regarding their reported experience with the game. Through thematic analysis, a number of common themes were found. Interestingly, the social aspect was the most frequently mentioned in the responses, while the story aspect received many more in-depth opinions.

Story.

Among players who enjoyed the game's story, it was commonly mentioned that the game's story benefited from the **rich background lore** and the **immersion**. For example, one participant reported that they have enjoyed the game for "how there are **many thousands of years of history**, characters that are entwined in it" (P18), and one participant mentioned

"...the opportunity to be a part of the story rather than simply witness it. Starting with Mists of Pandaria, I think the story capabilities of the game really took off. Prior to that, you were a part of major events, but MoP began the process of letting you feel like your character was the most important part of those events through a willing suspension of our real-world understanding that millions of other players were experiencing the same story." (P20)

Some participants, however, have reported that they have disliked certain parts of the story for the **inconsistency** in the writing and **compromises** made to comply with the gameplay. For example, it was mentioned that the game's overall story is not very deep:

"There is a strong illusion of depth, but in practice, there is a sense that **nothing in any given zone**, or any particular plot point, means anything in terms of a wider story. Characters are 2-dimensional archetypes whose motivations and behaviors change to serve temporary storylines." (P78),

and a participant mentioned that "after Warlords of Draenor, the game has **focused only on two characters** (Anduin and Sylvanas). And that for me is not what WoW is about. (*P65*)"

Furthermore, a few participants have noted that the game's fundamental system, e.g. the opposition of two factions, Alliance and Horde, is now a limitation to the story, for that "the overarching narrative cannot move on, as "Alliance vs Horde" is the game's (unique selling point) and is baked into the setting (P78)", and that

"I was annoyed with some of the overarching choices in the main storyline in the past few expansions. While I understand the faction divide may be too deeply embedded in the game's code to truly erase, **the story has felt like** it has bent to try to keep that faction war going." (P29)

Battle.

PvE and PvP battles alike, many participants have reported that the enjoyment comes mainly from the **challenges and self-improvement**, whether it is posed by the game's system or other players, as illustrated by comments such as "**pushing your own performance in a group** is what I enjoy most, but only if that group contains people you know or will get to know. I also enjoy **playing different classes to challenge myself** and learn what other players can do. (P75)"

Almost all participants noted that the enjoyment of battles/combat in-game can be compromised by the participating players, such as **toxic/elitist players** and **exploiters/cheaters** in random/match-making groups. In order to avoid potential unpleasant experiences, many participants have reported resorting to playing the game only with a select friend group.

Social.

As a multiplayer online game, WoW was one of the first to encourage heavy collaboration among players. Therefore, many participants have reported that the **community** is a big reason for their enjoyment of the game.

"Two things keep me coming back: my guild and the story. I've been playing Blizzard games since I was in elementary school (starting with WC II), so being able to see some of the environments and interact with the characters that have been part of my life for 20+ years is very exciting. My guild has been established since mid-WotC and we've casually raided in every expansion except for legion (and half of Warlords of Draenor). These are friends that I've met in person, attended weddings with, and have been interacting on personal

levels with for nearly 10 years now. Even if I no longer enjoyed WoW, I would probably still play if that was the only way I could play with them." (P60)

5.1.3 Player enjoyment in general

At the beginning of the survey, participants were asked to name up to 3 games they have enjoyed in the past, and report aspects of each game they have enjoyed. For each game, a multiple-answers question with four pre-selected answers (Story, PvE Battle, Social, PvP Combat) and one Other option allowing text entry. This list of answers was selected based on anecdotal evidence and literature on WoW players' enjoyment in-game [9].

A total of 275 responses from 92 participants were recorded. Among which, 202 reported story as a part of their enjoyment of games, 180 reported PvE battle, 103 reported social, and 80 reported PvP combat. Fifty-one Other responses provided additional comments, in which frequently mentioned keywords have been analyzed and developed into the following themes (following each theme is the number of occurrences among the responses).

- Aesthetics/Concept (9)
- Strategy (9)
- Collection (7)
- Exploration (6)
- Immersion (5)
- Customization (5)
- Building/Crafting (3)

5.1.4 Consumption of game narrative in general

Regarding storytelling, participants were asked to report whether they consume or skip different forms of game narrative. Since not all games contain all narrative forms included in the taxonomy, this question considers the first levels of each narrative form: cutscenes, dialogues, and quest descriptions. This question also serves as an early filter to eliminate fraudulent responses. No self-contradictory responses were found.

Statements	Mean	Median	SD
I will watch cutscenes	6.5	7	1.0
I will read dialogues	6.1	6	1.1
I will read quest descriptions	5.2	5	1.6
I will skip cutscenes	2.1	1	1.5
I will skip dialogues	2.4	2	1.6
I will skip quest descriptions	3.1	3	1.9

Table 5.4: Consumption of game narrative on a 7-item Likert scale of agreement (N=92)

A preliminary pattern in the preference for narrative was found, as shown on Table 5.4, that players generally prefer cutscenes over dialogues and quest descriptions. This pattern is consistent with the WoW-specific consumption discussed in Section 5.2.

5.2 Narrative System

To validate the narrative system proposed in Chapter 3, participants were asked to report on their awareness of the existence of each narrative form in-game, and whether they choose to watch or skip them. Examples of the narrative forms were provided in the survey. If a participant had selected both watch and skip, a follow-up text entry was displayed for the participant to provide additional comments.

5.2.1 Awareness

Narrative Forms	Aware	Watch	Skip	Watch Skip	N/A
Cinematics	100	87	1	2	0
Pre-rendered Cutscenes	99	84	2	2	1
Real-time Cutscenes	99	90	1	0	1
Voiced dialogues	100	85	3	0	0
Optional voiced dialogues	99	72	15	1	1
Text dialogues	100	68	14	2	0
Quest description text	100	62	18	6	0
Flavor text	95	63	15	1	5
Non-game animations	95	79	2	1	5
Comics	99	32	31	0	1
Novels	99	37	31	0	1

Table 5.5: Awareness of narrative system, calculated as **percentages** of selected responses (N=87)

As shown on Table 5.5, nearly all participants have reported being aware of the existence of all 11 forms of narrative in the game. Four participants selected the Other option and all asked about player-generated content, which I will discuss in Chapter 7. There have been instances where a participant has selected *Aware* for a certain narrative form, but not *Watch* nor *Skip*, such cases are considered "aware but not consumed".

5.2.2 Consumption

Participants who reported both *Watch* and *Skip* on certain narrative forms further elaborated on criteria that affect their decisions to watch or skip narrative in the game. Two most frequently mentioned situations were that if there was a gameplay need, such as **the need to quickly finish leveling**, or that the narrative has been **previous experienced** with other characters or from external sources (discussed in Section 5.2.5).

A few participants mentioned the tendency to skip more textual narratives but not cinematic ones, that "when there's a lot of **heavy text dialogue** (without voice acting) it fills up my chat and I more often skip instead of scroll through it (P44)", and "I don't prefer to process in-game story through only reading. I'm a **kinesthetic learner**, so text-

only storytelling isn't my jam. I need to see/hear to grasp what is happening in the story. (P31)"

One participant also noted that skipping pivotal narrative moments may compromise the gameplay experience, recalling past experience where "I skipped a cutscene once where you get teleported to another place afterward so I had no clue what was going on. (P68)"

5.2.3 Reasons to skip

Participants were asked to report on reasons they have skipped, or factors that might result in them skipping certain parts of the narrative, in a multiple-answers question with four pre-selected responses (*I find it time-consuming, I think it is boring, I need to finish leveling quickly*, and *I have played through this zone's story already*). An *Other* option with text entry was provided as well.

A total of 126 responses from 83 participants were recorded. Among which, 74 reported previously experienced as a reason to skip certain parts of the narrative, 21 reported leveling needs, 13 reported time-consuming, nine reported boring. Among nine Other responses, one participant reported having "poor attention span and memory (P72)" as a reason they have skipped the game's narrative.

5.2.4 Enjoyment of the narrative forms

Participants were asked to rank the 11 forms of storytelling based on how much they have enjoyed them, with 11 for the most enjoyed to one for the least enjoyed.

Narrative Forms	Mean	SD
Pre-rendered Cutscenes	10.6	2.8
Cinematics	10.3	2.5
Real-time Cutscenes	9.7	2.8
Voiced dialogues	8.6	2.4
Non-game animations	7.3	3.2
Optional voiced dialogues	7.3	2.6
Text dialogues	6.8	2.5
Quest description text	6.2	2.8
Flavor text	6.2	3.6
Novels	4.6	4.2
Comics	4.0	3.8

Table 5.6: Enjoyment of narrative system, sorted to display from highest mean to lowest (N=84)

Grouping up some narrative forms per the taxonomy in Figure 3.1, it was found:

- Essential(internal) narrative (Mean = 8.2, SD = 3.3)
 - Cinematic narrative (Mean = 10.2, SD = 2.7)
 - Textual narrative (Mean = 7.0, SD = 3.0)
- Supplemental(external) narrative (Mean = 5.3, SD = 4.0)

5.2.5 External sources to learn about the narrative

Regarding whether they would seek information about the game's story outside the game, 51 participants reported yes, 27 reported maybe, and six reported no. A multiple-answers question was asked to learn of the sources external to the game, with pre-selected answers (Posts from official forum, WoW or WoW related subreddits, Information sites such as Wowhead and Icy Veins, Twitch stream, YouTube videos, and Discussion with other people (friends, family, etc.)). An Other option was provided as well.

A total of 341 responses from 84 participants were received. Among which, 74 reported information sites as their external source to learn about the game's stories, 66 reported YouTube, 59 reported discussion, 54 reported Reddit, 48 reported the forums, 34 reported Twitch stream, and six reported Other.

5.3 Storytelling Experience and Preference

To learn about players' experience with, and preference for WoW's narrative, a series of questions was asked regarding participants' experience with the game's overall storytelling, enjoyment of expansion stories, and preferences for leveling, and methods of storytelling the game has utilized in the past.

5.3.1 Overall Experience

Participants were asked to report on their overall experience regarding the games' narrative through their opinions on them. A list of pre-written statements representing some opinions on WoW's story was provided, and participants were asked to rate on a 7-item Likert scale of agreement based on how much they agree with each of the statements.

Statements	Mean	Median	SD
I enjoy WoW's story	6.1	6	1.0
I feel that stories are needed in the game	6.4	7	1.1
The story added more value to the game	6.5	7	0.8
My immersion comes from the story	5.7	6	1.4
I play WoW for the story	4.8	5	1.5
I feel that I cannot play the game without the story	4.8	5	1.9
I would be motivated to play WoW even without the narrative	3.7	4	1.8
I think WoW does not need stories	1.7	1	1.1

Table 5.7: Opinion on narrative overall on a 7-item Likert scale of agreement (N=87)

5.3.2 Enjoyment of expansion stories

Similar to Section 5.2.4, participants were asked to rank the overall story of the nine expansions of the game, with nine as the most enjoyed to one as the least enjoyed.

Expansions	Mean	SD
3.0 Wrath of the Lich King	8.0	2.4
1.0 Vanilla WoW	7.8	3.5
7.0 Legion	7.6	2.4
2.0 The Burning Crusade	7.5	3.2
5.0 Mists of Pandaria	7.3	2.3
9.0 Shadowlands	7.2	2.3
4.0 Cataclysm	6.6	3.0
6.0 Warlords of Draenor	5.6	2.9
8.0 Battle for Azeroth	5.5	2.6

Table 5.8: Enjoyment of expansion stories, sorted from highest mean to lowest (N=87)

5.3.3 Variety

Participants were asked whether they find a variety of storytelling in the game important, and rated on a 5-item Likert scale with five as the most important and one as the least important (Mean = 4.0, Median = 4, SD = 1.0, N = 84). Moreover, a few questions were asked regarding different methods of storytelling the game has previously utilized.

Branching storytelling

In the Battle for Azeroth expansion, the two playable factions were given completely different leveling zones and storylines, and Horde players were given an interactive storyline where player choices lead to different dialogue options but eventually lead to the same ending. To have branching stories means to have multiple different storylines, and if players want to fully experience the story in the game, they have to create multiple characters. With this question, I aim to learn how willing players are to do so for the sake of experiencing the whole story.

To avoid possible spoilers to the story, participants were given the option to skip these questions asking about specific storylines. A total of 82 participants responded to the spoiler disclaimer, in which 74 selected to acknowledge spoilers and proceed with the questions, three selected to proceed but skip parts that they have not played, and five selected to skip the entire section. Half of the participants who selected to proceed with the study have reported having played through all storylines covered by the questions.

Participants were asked to rate on a 7-item Likert scale on how much they liked about the fact that the two factions received different zones and stories, with seven as liked a great deal, and one as dislike a great deal (Mean = 5.8, Median = 6, SD = 1.7, N = 77).

Fifty participants responded to the follow-up question regarding the faction-specific storytelling, in which 37 reported to have used an existing character to experience the other factions' story, 12 reported to have created a new character for this purpose, and one mentioned to have learned of the story from a YouTube video.

Similar to Section 5.3.1, a list of pre-written statements representing some opinions on branching storytelling was provided, and participants were asked to rate on a 7-item Likert scale of agreement based on how much they agree with each of the statements.

Statements	Mean	Median	SD
I enjoy making meaningful choices	6.2	7	1.1
I don't think the War Campaign allowed me to make meaningful choices	5.1	5	1.5
I would be more motivated to play WoW if there are more branched stories	5.2	5	1.4
I feel compelled to experience all possible branches of the story	5.5	6	1.4
I think branched stories add little value to the game's overall narrative	3.4	3	1.7
I hope the choices I made makes an impact in future stories	5.8	6	1.4

Table 5.9: Opinion on branched storytelling on a 7-item Likert scale of agreement (N=77)

While this question did not provide space for additional comments, several participants have left remarks at the end of the survey regarding branching storytelling.

"In general I like branching and it having an effect on the future story. However, I think in a big game like this, **too much developer time would be consumed to properly achieve it**. I think **the replayability for branching is too low** in WoW. I do think class-specific quests are fun because everything in that story would be unique so people would actually be motivated to experience them." (P75)

Main story/linear storytelling

In the Shadowlands expansion, the leveling experience featured a linear Main Story Campaign that must be completed before any endgame features can be unlocked. Since this was the first time WoW utilized such a method of storytelling, a list of pre-written statements representing some opinions on linear storytelling was provided, and participants were asked to rate on a 7-item Likert scale of agreement based on how much they agree with each of the statements. This question aims to learn about players' preference between linear storytelling and a more spread-out, free-choice style of storytelling the game has featured in the past.

Statements	Mean	Median	SD
I enjoy following a linear story	5.6	6	1.3
I believe the main story campaign makes the game's story more complete	6.1	6	1.1
I think the main story campaign adds little value to the game	2.9	2	1.8
I find the main story campaign too restrictive	3.5	3	1.8
I would like to see more campaign stories	6.0	6	1.2

Table 5.10: Opinion on linear storytelling on a 7-item Likert scale of agreement (N=81)

While discussing the leveling experience, several participants also provided comments on the impact linear storytelling has on the leveling (discussed in Section 5.3.5).

5.3.4 Cutscenes

There are two types of cutscenes in my definition, pre-rendered and real-time. To learn more about players' preferences for cutscenes, a short multiple-choice question was asked about a certain controversial in-game cutscene, followed by a space for additional comments. A total of 76 participants responded to the question, 38 selected to prefer cutscenes that are more cinematic, 29 selected to prefer ones that include their own character, nine selected none of the above and provided elaboration. It was commonly mentioned that the choice of cutscene types should fit the story content, rather than a "one-fits-all" solution, and that the cutscene the question referred to was controversial because "the ending was bad and rushed" (P65), and "felt out of place and a bit anti-climatic" (P52).

5.3.5 Leveling and narrative

A series of questions were asked to learn about players' preference for leveling methods and perception of the relationship between leveling and narrative, as the game's narrative happens mostly in conjunction with leveling. These questions aim to learn about players' preferences between the narrative and other aspects of the game.

Leveling preference

Participants were given a multiple-answers question with three pre-selected answers (Questing in the same zones you have experienced before, Questing in zones that you have NOT experienced, Farming dungeons) and one Other option allowing text entry to provide options not covered by these answers. A space for elaboration on the reasons for the leveling choices was also provided. A total of 190 responses from 90 participants were received, in which, 61 selected to level in the same zones previous experienced, 65 selected new zones that they have not experienced, 47 selected farming dungeons, 17 selected the Other option, and mentioned PvP Combat (6), bonus objective/treasure hunt (5), pet battle (4), and professions (2). Two participants also mentioned character boosts bought in the cash shop, but I will not discuss it as this method skips the narrative altogether.

A number of frequently mentioned themes were found through thematic analysis on the received responses, and themes that appeared over five times are recorded below and further discussed in Chapter 6:

- Efficiency (old zones, dungeons) (24)
- Exploration (new zones) (24)
- Less repetition (new zones) (16)
- Immersion (new zones) (8)
- Familiarity (old zones) (7)
- Boring (dungeons) (6)
- Freedom of pace (old zones, new zones) (6)

Leveling vs. narrative

Before the Shadowlands expansion, the game used to feature a more free leveling experience, with zones that can be completed in any order. To learn about players' preference between the two leveling styles, and how players perceive the relationship between leveling and narrative, a list of pre-written statements representing some opinions on storytelling during leveling was provided, and participants were asked to rate on a 7-item Likert scale of agreement based on how much they agree with each of the statements.

Statements	Mean	Median	SD
I enjoyed leveling in zones and	5.8	6	1.3
orders of my choice	0.0	0	1.5
I believe a more free leveling experience	5.6	6	1.4
makes the game more playable	0.0	0	1.4
I think the leveling zone choice	3.3	3	1.7
adds little value to the game	0.0	3	1.1
I believe the independent storylines	4.0	4	1.7
make the storytelling less coherent	4.0	4	1.1
I felt compelled to complete all zones	5.8	6	1.5
to experience the entirety of the story	0.0	U	1.0
I would like to have	5.7	6	1.2
some freedom in how I level	0.1	U	1.4

Table 5.11: Opinion on leveling on a 7-item Likert scale of agreement (N=81)

Although freedom was the most common theme found in the responses, almost all the responses have mentioned preferring a mix of the two styles. From a narrative standpoint, several participants would like to see "a free-choice leveling progression/system that also follows a linear overarching plot that requires all zones to be completed, but is altered by the order in which zones were quested through" (P78). From a gameplay perspective, many participants have enjoyed the "Thread of Fate" feature added in Shadowlands, that after the main character finishes the main story quest, Alts can choose this option to skip the main story and level with additional quests in the areas.

"I feel like we can always **have both**. Freedom in leveling path and a storyline. I feel that Shadowlands hits a good medium by having two very different options so you **don't burn out on a story** if you have a lot of characters you want

to level. But I feel that it is necessary that we had the story told the first time especially with how heavily focused the story is this expansion." (P104)

Chapter 6

Discussion

In this chapter, I reflect on the results and analysis from Chapter 5, and discuss how I may use some key findings from this exploratory study to guide game design and inform future game research.

6.1 Narrative as a system

The results from this study validate the proposed overview, through confirming not only the inclusion of the 11 narrative forms, as nearly all participants were aware of them, and did not notice any additional narrative forms the concept neglected to include, but also the taxonomic hierarchy by reporting a similar enjoyment and consumption ranking. Participants have exhibited a strong preference for internal narrative to external:

"Important lore should not be locked behind segmented factions in any way, nor should important lore events be restricted to books or other outside media. All main stories should be involved with the gameplay. Books and comics would be wonderful for character or culture expansion for *side* stories to make the world a little more alive and active outside of the main campaign, whatever it may be. But anything connected directly to the main drive of the game story should be accessible IN THE GAME without faction restrictions." (P59)

6.1.1 Enjoyment of narrative forms

The proposed overview was designed so that narrative forms featuring higher-fidelity assets and more easily accessed are more favored on the hierarchy. While the reported enjoyment ranking mostly aligns with the proposed ordering, I have had a number of interesting findings from results shown in table 5.6:

- Pre-rendered cutscenes ranked slightly higher than Cinematics, despite the latter featuring higher-fidelity assets.
- Pre-rendered cutscenes ranked considerably higher than real-time cutscenes.
- Automatic voiced dialogues ranked considerably higher than optional voiced dialogues.
- Non-cinematic animations, as an external form, ranked higher than a number of internal narrative.
- Novels ranked higher than comics, despite being more textual.

Hypothesis **H1** is fully supported, as satisfactory results for awareness on all narrative forms were received. With the exception of real-time cutscenes switching position with pre-rendered cutscenes, sorted results on the consumption of narrative forms appear the same as the enjoyment ranking (as shown on Table 5.6). Several participants elaborated on the reasons to skip cinematics and pre-rendered cutscenes which have resulted in real-time cutscenes ranking on top, that since cinematics and real-time cutscenes are also accessible outside the game, some participants have already seen them before playing the game, therefore choosing to skip them to speed up game progress.

It would appear that hypothesis **H2** is partially supported by the results, as all cinematic narrative, with the exception of (automatic) voiced dialogues, were rated higher than textual forms. Several participants mentioned voice acting as a key factor in the decision to consume or skip narrative in-game, and if taking voice acting into consideration, it would appear that narrative forms with voice acting all rated higher than forms without. Also, regarding the exception of voiced dialogues, as the only difference between automatic and optional dialogues is that optional ones require additional player actions to acquire, this suggests that the complexity of acquisition plays a role in players' enjoyment of game narrative as well.

6.1.2 Consumption of narrative forms

Narrative forms	Consumption
Real-time Cutscenes	90
Cinematics	89
Pre-rendered Cutscenes	86
Voiced dialogues	85
Non-game animations	80
Optional voiced dialogues	73
Text dialogues	70
Quest description text	68
Flavor text	64
Novels	37
Comics	32

Table 6.1: Consumption of narrative, calculated as percentages of selected responses, sorted to display from highest to lowest. Aside from real-time and pre-rendered cutscenes switching places, all other forms rated the exact same as enjoyment

Participants suggested that the reason real-time cutscenes, despite being less visually appealing, rated higher than cinematics and pre-rendered cutscenes, is that players have already seen them outside the game. Both cinematics and pre-rendered cutscenes are used as commercial materials and are usually available before they are in-game.

Participants have also mentioned that they would skip narrative when there is a need to finish leveling/not keep the group waiting. This is where the gameplay or social factors have an impact on the narrative experience.

Hypothesis **H3** is not supported by the results, as nearly the same amount of participants reported to prefer either of the two forms of cutscenes, with some participants providing elaboration to note that there is not a "one-fits-all" solution but one that works best for the story moments.

6.2 Understanding the players

The second main objective of this thesis is to reach a deeper understanding of players. In this section, I discuss findings in this study regarding players' overall enjoyment of the

game, and preference for the game's storytelling.

6.2.1 Player enjoyment of the game

Player enjoyment can be affected by many factors, not only proven by existing research such as [27], but also results of this study. As the game is constantly changing and releasing new content with each expansion, player feedback on each expansion may indicate how players' enjoyment changes over time. Here we take a brief look at the mean ranking on enjoyment of expansion stories from this study, and compare it with user ratings for each expansion on review sites such as Metacritics [42] to see how much the overall ranking and narrative ranking differ.

Narrative	Overall
3.0 Wrath of the Lich King	2.0 The Burning Crusade
1.0 Vanilla WoW	3.0 Wrath of the Lich King
7.0 Legion	1.0 Vanilla WoW
2.0 The Burning Crusade	7.0 Legion
5.0 Mists of Pandaria	6.0 Warlords of Draenor
5.0 Mists of Pandaria 9.0 Shadowlands	6.0 Warlords of Draenor 4.0 Cataclysm
9.0 Shadowlands	4.0 Cataclysm

Table 6.2: Narrative rankings in this study and overall ratingsranking for each expansion of WoW on Metacritics (retrieved: July 8, 2021)

It can be seen on Table 6.2, that aside from 8.0 Battle for Azeroth which is consistent for both rankings, the remaining rankings divide themselves perfectly into two tiers: 1.0 Vanilla WoW, 2.0 The Burning Crusade, 3.0 Wrath of the Lich King, 7.0 Legion, and 4.0 Cataclysm, 5.0 Mists of Pandaria, 6.0 Warlords of Draenor, 9.0 Shadowlands Within each tier, items rank slightly differently. It is unknown what caused this clear tier separation, and the difference within each tier.

I have found some common themes from participant feedback that provide reasons why certain expansions were less enjoyable than others, which would suggest causes to discourage players from playing any game, and these issues can appear in any game, not just WoW:

• Generally, the rating for an expansion will be lower if there is a **significant design flaw**, such as unrewarding gameplay or inconsistent story: "In the current expansion, I dislike how hard it is to gear up. That makes the grinding aspect I dislike anyways even worse." (P93),

"(They do not have) respect for things that were already established. For example, the retcon (retroactive continuity) that they made with Illidan so he would become a hero at the end of *Legion*. Or the way Sylvanas did not respect mak'gora or the other leaders of the horde and that had zero consequences (*Battle for Azeroth*)." (*P65*)

- Lack of innovation: "After the first and TBC expansions they are more or less the same. Just a new revamped or cooler version of the previous. Did not enjoy so much. And now it's just about the gears." (P43)
- **Greedy monetization**: "WoW has a very grindy system, even for an MMORPG, and is one of the few systems that has a subscription on top of the other monetization features (e.g., cosmetics and DLC), those aspects throw me off and make me lose interest in WoW." (*P77*)
- Unfulfilled player expectations: "The game developers are not really fulfilling the players' expectations. They mostly are like: 'nah you don't want this', but when it comes to the end of expansion it's always like 'here ya go! The things you were asking!" (P105)
- And, while toxicity is "mostly a community issue, rather than a WoW specific issue" (P100), some times an expansion's core system might **promote toxicity**: "I thoroughly dislike that I have to do M+ content and keep pushing to get gear if I want to be competitive in raids. I know it's a given, just don't like that it's basically compulsory to do given I don't enjoy dungeons." (P101)

"It is sometimes very difficult to get into a group as a specific role (DPS). There used to be a lot of focus on item levels, but that has moved over to raider io scores. The score serves a purpose, but I feel like a lot of the time, the community is so hung up on it, they expect people that have already surpassed the content to join their groups instead of those at the level of the dungeon." (P100)

As an online multiplayer game, WoW also suffers from cheating through the use of third-party software, commonly referred to as "botters" [22]. Participants have also mentioned botters as a part of the toxicity the current game design promotes.

6.2.2 Narrative experience and preference

While there exist several previous research studies that draw the connection between game narrative and player experience [24, 75, 53], and player enjoyment models that consider game narrative as a contributing factor to players' immersion which in turn impacts the enjoyment [27], whether the narrative itself has a direct effect on players' enjoyment and experience with a game remains an underexplored topic. This thesis hopes to prove such an effect narrative have on player experience. To do so, this study inquired players' opinions on the game's narrative to see how important they find narrative to their game experience.

Overall, participants have reported greatly enjoying the game's story, feel that stories are needed in this game, and believe that the story adds more value to the game. This stands to prove that narrative is indeed an impactful factor to the player experience. While existing literature considers narrative a source of immersion, results in this study showed that players do not completely agree with this statement, suggesting that a distinction may be drawn between immersion and narrative.

Participants have shown a clear preference toward the game's storytelling as well, and as a result, there will be expectations for the game's future stories.

- Participants (N=84) have noted that a variety of storytelling in the game is preferred and important.
- Participants (N=77) have reported to like the fact that different characters can receive different storylines, and that they enjoy making meaningful choices and would be more motivated to play the game if there are more branching storytelling.
- Participants (N=77) hope that the choices they make in-game have an impact on future stories. This also aligns with existing work on the persistence of game environment [23].
- Participants (N=81) agreed to enjoy following a linear story, feel it makes the game's storytelling more complete, and would like to see more, while noting that freedom to choose between linear storytelling and a more free play style is desired.

6.2.3 Leveling and narrative

Leveling, as a form of character progression, is a major part of the game's content [8, 14, 46]. In this study I have learned that the narrative has an impact on other aspects of the

game, and when the goals conflict, players will make a choice. For example, a number of participants reported to prioritize the efficiency of completion of leveling, that they prefer to level in zones they have experienced before so that they can progress through the content as quickly as possible without missing the story, while when they have time to explore new areas and experience new stories, they will take the time and follow the story closely; A number of participants reported to level their Alts through farming dungeons (i.e. battle repeatedly through instanced contents known as dungeons) with a group of friends, while level in quest zones when they have time to experience the story in their own pace, without compromising for others' progresses.

6.3 Limitation

One major limitation of this study is the relatively small sample size because the study was advertised on WoW-related community sites and Discord servers, as well as social media. I have had a significantly shorter than ideal data collection period because of the delays caused by COVID-19 and I was ultimately unable to collect a minimum of 150 valid and high-quality responses as I had originally intended. Also, there was no way to determine whether the sample population is representative of the entire player base.

All participants were WoW players recruited from platforms related to the game, therefore it is unclear how generalizable the findings of this study are toward a broader selection of games and game genres. Moreover, the majority of participants have reported to have multiple years of experience with the game (only 12 out of 92 participants reported to have played the game for 2 years or less), it is unknown whether new players to the game have different preferences for the narrative.

This thesis focused on non-interactive narrative, as WoW does not provide players with choices may affect the outcome of the storyline. For interactive story games such as *Detroit: Become Human*, it is uncertain whether findings of this study still apply.

Due to the voluntary nature of the survey, almost all questions were flagged optional, and some participants have chosen to skip them. In such cases, I recommend that researchers incorporate more qualitative questions in future studies, and/or leave space for follow-up studies such as interviews.

6.4 Future works

In addition to above discussed key findings that promote further investigations, I have noted some opportunities for future research based on other findings in this study and existing literature.

6.4.1 User-generated content

A number of participants mentioned player-generated content such as fan-fiction and stories made up by role-playing players as a part of the game's narrative. Although it was not an objective for this thesis to study this specific type of content, I acknowledge the potential for future research on the role a game's fantasy setting plays on user-generated content and its value in enriching the player experience.

6.4.2 Gameplay as a narrative form

While this thesis discussed non-interactive narrative specifically, stories can also be told through gameplay which is the interaction between players and the environment [21]. Even without knowing the justification of an action in-game, players know where they should go and what they should do. Future studies may expand on this aspect of the game and explore the potential to embed narrative in gameplay.

6.4.3 Player character data

In the first section of the survey, *Understanding the players*, I collected data from participants' main characters' information, numbers of characters owned, and years played. The main character's information allows me to access their public profile on WoW's official website, which gives me information such as a character's current equipment, dungeon/raid progression, PvP statistics, achievements, and pet/mount collection. Similar to the study conducted by Yee et al. [75], I could perform additional analyses on the current data to explore the correlation between players' narrative preference and their play style.

6.4.4 Narrative preference and player traits

I believe this study opens an opportunity for a follow-up study to explore the correlation between players' narrative preference and their personality and motivation, using the player traits model developed by Tondello et al., which divides players into five categories: Aesthetic orientation, Narrative orientation, Goal orientation, Social orientation, Challenge orientation [63].

6.4.5 Game designer interview study

While this thesis explored the players' preference towards the narrative system in WoW, ultimately it is the game designer's decision to create a game's story the way they want. Even with the validated model, it is still unclear how this concept can provide game designers with a guideline for story design. I believe the designer's preferences and concerns are equally important to the a player's preferences. Therefore, I would recommend a follow-up study be conducted, similar to the interview study conducted by Denisova [20], to interview game designers and mature this concept into more tangible guidelines that would help designers create more enjoyable stories for players.

6.4.6 Game designer suggestions

With findings in this study, I make the following suggestions for game designers to improve player experience through narrative design. With future work, I aim to provide more generalized guidelines that are applicable to a broader range of games than just WoW or MMORPG.

- 1. The main story should be fully accessible within the game. External narratives can provide additional details or character developments but should not create barriers to understanding the main story.
- 2. More important information should be presented using higher-fidelity assets and requiring less player actions to access, such as cinematics, cutscenes, and automatic voiced dialogues.
- 3. For a quantifiable measure of priority, and the amount of story to use in each form of narrative, designers may refer to the consumption percentage of each form, and create backup plans in case key information that may affect gameplay is missed, such as story-related content on external sources.
- 4. Conflict between the consumption of narrative and other aspects of the game should be limited as much as possible to avoid forcing players to make a choice.

- 5. Have a clear understanding of where the player characters fit in the story, and be consistent.
- 6. Give players as much freedom as possible without damaging the integrity of the narrative.

Chapter 7

Conclusion

This thesis explored players' experience with and preference for game narrative. It used WoW as an example and confirmed the importance of narrative for player experience and enjoyment of this game. To the best of my knowledge, this is the first work in the literature to present a systematic view of a transmedial game narrative as a system consisting of numerous components, rather than simply as one factor (or even just as the source of immersion as a factor) in player experience.

I proposed a structured overview of narrative as a system in which various forms of narrative work together to present the story. I designed a survey to examine the validity of this overview and collect opinions and feedback regarding the game's current storytelling. The survey concluded with 95 valid responses from participants from North America and Europe.

My key findings in regards to the RQs are as follows:

- 1. Participants are fully aware of all 11 narrative forms in the game.
 - Participants prefer narrative forms with higher-fidelity assets and easy access.
 - Participants choose to skip previously viewed narrative or when the consumption of narrative conflicts with gameplay goals such as leveling.
 - Participants view game-related YouTube videos and participate in forum discussions to learn more about the story when it suits them best.
- 2. Participants consider narrative as an essential part of their game experience and have clear expectations and preferences for the game's storytelling.

- Participants like to have storytelling variety in the game.
- Participants enjoy faction-separated stories and will create or use Alts to experience both sides of the story.
- Participants enjoy branching stories, although they feel the current game hasn't allowed them to make meaningful choices that would affect the game world.
- Some participants enjoy the linear storytelling, some participants enjoy a freer, independent-zone storytelling, most participants would like to see a hybrid of both.
- Participants do not have a clear preference for cutscenes. Instead, they believe it depends on which form works the best for the story being told.
- 3. Participants do consider the narrative a part of the leveling experience. However, it sometimes conflicts with the leveling objective. For example, leveling in a group context may compromise the narrative experience. Thus, some participants choose to only experience the narrative when leveling alone. Experiencing stories in new zones may take time, so participants with a need to finish leveling efficiently choose to level in old zones.

With these findings, I have discovered opportunities for future research that can further explore the players in WoW and provide suggestions for designers to improve the user experience through well-informed and organized narrative design.

References

- [1] Leigh Achterbosch, Robyn Pierce, and Gregory Simmons. Massively multiplayer online role-playing games: The past, present, and future. *Comput. Entertain.*, 5(4), March 2008.
- [2] Anne-Mette Bech Albrechtslund. Online identity crisis: Real id on the world of war-craft forums. First Monday, 16(7), 2011.
- [3] Woodcock B. An analysis of mmog subscription growth from 1998 to 2014, 2014. Retrieved on August 10, 2021 from http://users.telenet.be/mmodata/Charts/Subs-1.png.
- [4] Eszter Barabás. Transmedia storytelling in the warcraft universe: the role of intermediality in shaping the warcraft lore. *University of Dublin*, page 81, 2020.
- [5] Richard A. Bartle. *Designing virtual worlds*. New Riders Pub., Indianapolis, Ind, 1st edition edition, 2004.
- [6] Peter Bayliss. Beings in the game-world: characters, avatars, and players. In *Proceedings of the 4th Australasian conference on Interactive entertainment*, pages 1–6, 2007.
- [7] Kelly Bergstrom, Victoria Mcarthur, Jennifer Jenson, and Tamara Peyton. All in a day's work: A study of world of warcraft npcs comparing gender to professions. Proceedings - Sandbox 2011: ACM SIGGRAPH Video Game, 08 2011.
- [8] Katherine Bessière, A. Fleming Seay, and Sara Kiesler. The ideal elf: Identity exploration in world of warcraft. *CyberPsychology & Behavior*, 10(4):530–535, Aug 2007.
- [9] Joël Billieux, Martial Van der Linden, Sophia Achab, Yasser Khazaal, Laura Paraskevopoulos, Daniele Zullino, and Gabriel Thorens. Why do you play world

- of warcraft? an in-depth exploration of self-reported motivations to play online and in-game behaviours in the virtual world of azeroth. *Computers in human behavior*, 29(1):103–109, 2013.
- [10] Richard E. Boyatzis. Transforming Qualitative Information: Thematic Analysis and Code Development. SAGE, Apr 1998.
- [11] Virginia Braun and Victoria Clarke. Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2):77–101, Jan 2006.
- [12] Elin Carstensdottir, Erica Kleinman, and Magy Seif El-Nasr. Player interaction in narrative games: structure and narrative progression mechanics. In *Proceedings of the 14th International Conference on the Foundations of Digital Games*, page 1–9. ACM, Aug 2019.
- [13] M. Cavazza, O. Martin, F. Charles, X. Marichal, and S.J. Mead. User interaction in mixed reality interactive storytelling. In *The Second IEEE and ACM International* Symposium on Mixed and Augmented Reality, 2003. Proceedings., page 304–305. IEEE Comput. Soc, 2003.
- [14] Vivian Hsueh-hua Chen and Henry Been-Lirn Duh. Understanding social interaction in world of warcraft. In *Proceedings of the international conference on Advances in computer entertainment technology ACE '07*, page 21. ACM Press, 2007.
- [15] J. Clement. 2019 U.S. video gamer gender statistics, 2020. What percentage of gamers are female? This statistic shows the percentage of gamers by gender in the U.S. from 2006 to 2019. In 2018, 46% of all gamers were men, a slight increase over the previous year. Retrieved on August 10, 2021, from https://www.statista.com/statistics/232383/gender-split-of-us-computer-and-video-gamers/.
- [16] Nicole Crenshaw. Social experience in world of warcraft: Technological and ideological mediations. In *Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play Companion Extended Abstracts*, CHI PLAY Companion '16, page 1–4, New York, NY, USA, 2016. Association for Computing Machinery.
- [17] Nicole Crenshaw and Bonnie Nardi. What's in a name? naming practices in online video games. In *Proceedings of the First ACM SIGCHI Annual Symposium on Computer-Human Interaction in Play*, CHI PLAY '14, page 67–76, New York, NY, USA, 2014. Association for Computing Machinery.

- [18] Nicole Crenshaw and Bonnie Nardi. "it was more than just the game, it was the community": Social affordances in online games. In *Proceedings of the 2016 49th Hawaii International Conference on System Sciences (HICSS)*, HICSS '16, page 3781–3790, USA, 2016. IEEE Computer Society.
- [19] Elise K DeFusco. Experiencing Azeroth: A Narrative Inquiry Into Playing The Massive Multiplayer Online Role-Playing Game (Mmorpg) World Of Warcraft. PhD thesis, University of Edinburgh, 2020.
- [20] Alena Denisova, Julia Ayumi Bopp, Thuy Duong Nguyen, and Elisa D Mekler. "whatever the emotional experience, it's up to them": Insights from designers of emotionally impactful games. In *Proceedings of the 2021 CHI Conference on Human Factors in* Computing Systems, page 1–9. ACM, May 2021.
- [21] S. Domsch. Storyplaying: Agency and Narrative in Video Games. Narrating futures. De Gruyter, 2013.
- [22] Philippe Golle and Nicolas Ducheneaut. Preventing bots from playing online games. *Comput. Entertain.*, 3(3):3, July 2005.
- [23] Viktor Gustafsson, Benjamin Holme, and Wendy E. Mackay. Narrative substrates: Reifying and managing emergent narratives in persistent game worlds. In *International Conference on the Foundations of Digital Games*, page 1–12. ACM, Sep 2020.
- [24] Deborah Henderson. Using user research to improve game narratives, 2014.
- [25] Henry Jenkins. Moving characters from books to films to video games can mack them stronger and more compelling. *Technology Review*, 2003.
- [26] Henry Jenkins. Convergence Culture: Where Old and New Media Collide. NYU Press, 2006.
- [27] Daniel Johnson, Lennart E. Nacke, and Peta Wyeth. All about that base: Differing player experiences in video game genres and the unique case of moba games. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*, page 2265–2274. ACM, Apr 2015.
- [28] Jesper Juul. Games telling stories, 2001.
- [29] Jesper Juul. Half-real: Video games between real rules and fictional worlds. In Half-Real. MIT Press, 2005.

- [30] Jong-Hyeong Kim and Hyewon Youn. How to design and deliver stories about tourism destinations. *Journal of Travel Research*, 56(6):808–820, Jul 2017.
- [31] Adam Kramarzewski. *Practical Game Design*. Packt Publishing, 1st edition edition, 2018.
- [32] T. Krzywinska. Arachne challenges minerva: The spinning out of long narrative in world of warcraft and buffy the vampire slayer. *CORE*, 2007.
- [33] Ian J. Livingston, Carl Gutwin, Regan L. Mandryk, and Max Birk. How players value their characters in world of warcraft. In *Proceedings of the 17th ACM conference on Computer supported cooperative work & social computing*, page 1333–1343. ACM, Feb 2014.
- [34] Linbo Luo, Wentong Cai, Suiping Zhou, Michael Lees, and Haiyan Yin. A review of interactive narrative systems and technologies: a training perspective. *SIMULATION*, 91(2):126–147, February 2015. Publisher: SAGE Publications Ltd STM.
- [35] Brian Magerko. A comparative analysis of story representations for interactive narrative systems. *Proceedings of the Third AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*, page 4, 2007.
- [36] Cass Marshall. World of warcraft just ended its most controversial story, and it's a beautiful mess, Sep 2019.
- [37] Marcel Martončik and Ján Lokša. Do world of warcraft (mmorpg) players experience less loneliness and social anxiety in online world (virtual environment) than in real world (offline)? Computers in Human Behavior, 56:127–134, Mar 2016.
- [38] Allyssa McCabe, McCabe Allyssa, and Carole Peterson. *Developing Narrative Structure*. Psychology Press, 1991. Google-Books-ID: eWNPlfU6iAEC.
- [39] Brad McKenna and Hameed Chughtai. Resistance and sexuality in virtual worlds: An lgbt perspective. *Computers in Human Behavior*, 105:106199, 2020.
- [40] Drew Menard. Entertainment assembled: The marvel cinematic universe, a case study in transmedia. Master's thesis, Liberty University, 2015.
- [41] Steven Messner. World of warcraft's latest cinematic is a narrative disaster and players hate it, Jul 2021.
- [42] Metacritic. World of warcraft reviews on metacritic.

- [43] David Milam, Magy Seif El-Nasr, and Ron Wakkary. Looking at the Interactive Narrative Experience through the Eyes of the Participants, volume 5334 of Lecture Notes in Computer Science, page 96–107. Springer Berlin Heidelberg, 2008.
- [44] Alex Mitchell and Kevin McGee. Reading Again for the First Time: A Model of Rereading in Interactive Stories, volume 7648 of Lecture Notes in Computer Science, page 202–213. Springer Berlin Heidelberg, 2012.
- [45] mmo population.com. World of warcraft 5 year subscriber stats from 2016 to 2021, 2021.
- [46] Bonnie Nardi. Collaborative play in world of warcraft. In 2006 Fourth Latin American Web Congress, page 3–3. IEEE, 2006.
- [47] Bonnie Nardi and Justin Harris. Strangers and friends: Collaborative play in world of warcraft. In *Proceedings of the 2006 20th Anniversary Conference on Computer Supported Cooperative Work*, CSCW '06, page 149–158, New York, NY, USA, 2006. Association for Computing Machinery.
- [48] Yiing Y'ng Ng, Chee Weng Khong, and Robert Jeyakumar Nathan. Evaluating affective user-centered design of video games using qualitative methods. *International Journal of Computer Games Technology*, 2018:3757083, Jun 2018.
- [49] Miguel Angel Nicolas Ojeda. In the warcraft universe we trust: An analysis of transmedia advertising strategies in the world of warcraft video game series ("battle chest 3.0," "cataclysm," and "mists of pandaria"). *International Journal of Communication* 13, page 19, 2019.
- [50] Hua Qin, Pei-Luen Patrick Rau, and Gavriel Salvendy. Measuring player immersion in the computer game narrative. *International Journal of Human-Computer Interaction*, 25(2):107–133, Feb 2009.
- [51] Brian Richardson. Recent concepts of narrative and the narratives of narrative theory. Style, 34(2):168–175, 2000.
- [52] Christian Roth and Hartmut Koenitz. Evaluating the user experience of interactive digital narrative. In *Proceedings of the 1st International Workshop on Multimedia Alternate Realities*, page 31–36. ACM, Oct 2016.
- [53] Christian Roth, Peter Vorderer, C. Klimmt, and Ivar Vermeulen. Measuring the user experience in narrative-rich games: Towards a concept-based assessment for interactive stories. CEUR Workshop Proceedings, 634, 01 2010.

- [54] Marie-Laure Ryan. From narrative games to playable stories: Toward a poetics of interactive narrative. Storyworlds: A Journal of Narrative Studies, 1:43–59, 2009.
- [55] Edward F. Schneider, Annie Lang, Mija Shin, and Samuel D. Bradley. Death with a Story: How Story Impacts Emotional, Motivational, and Physiological Responses to First-Person Shooter Video Games. *Human Communication Research*, 30(3):361–375, 01 2006.
- [56] Magy Seif El-Nasr, David Milam, and Tony Maygoli. Experiencing interactive narrative: A qualitative analysis of façade. *Entertainment Computing*, 4(1):39–52, Feb 2013.
- [57] Theodoros Sourmelis, Andri Ioannou, and Panayiotis Zaphiris. Massively multiplayer online role playing games (mmorpgs) and the 21st century skills: A comprehensive research review from 2010 to 2016. *Computers in Human Behavior*, 67:41–48, Feb 2017.
- [58] Kurt Squire. From content to context: Videogames as designed experience. *Educational Researcher*, 35(8):19–29, 2006.
- [59] J. Strauss. Multimedia Narratives: Digital Bards. PhD thesis, North-West University, 2019. Accepted: 2020-02-11T10:13:18Z.
- [60] Jan-Noël Thon. Immersion revisited: On the value of a contested concept. *Extending Experiences*, page 16, 2008.
- [61] Jan-Noël Thon. Computer games, fictional worlds, and transmedia storytelling: A narratological perspective. *The Philosophy of Computer Games Conference, Oslo*, page 6, 2009.
- [62] David Thue. Interactive storytelling: A player modelling approach. *AIIDE*, page 6, 2007.
- [63] Gustavo F. Tondello, Karina Arrambide, Giovanni Ribeiro, Andrew Jian-lan Cen, and Lennart E. Nacke. "I Don't Fit into a Single Type": A Trait Model and Scale of Game Playing Preferences, volume 11747 of Lecture Notes in Computer Science, page 375–395. Springer International Publishing, 2019.
- [64] Gustavo F. Tondello, Rina R. Wehbe, Zachary O. Toups, Lennart E. Nacke, and Nicole K. Crenshaw. Understanding player attitudes towards digital game objects. In Proceedings of the 2015 Annual Symposium on Computer-Human Interaction in Play,

- CHI PLAY '15, page 709–714, New York, NY, USA, 2015. Association for Computing Machinery.
- [65] Zachary O. Toups, Nicole K. Crenshaw, Rina R. Wehbe, Gustavo F. Tondello, and Lennart E. Nacke. "the collecting itself feels good": Towards collection interfaces for digital game objects. In *Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play*, CHI PLAY '16, page 276–290, New York, NY, USA, 2016. Association for Computing Machinery.
- [66] Nico van Dijk and Joost Broekens. Virtual team performance depends on distributed leadership. In Hyun Seung Yang, Rainer Malaka, Junichi Hoshino, and Jung Hyun Han, editors, Entertainment Computing - ICEC 2010, page 91–102. Springer Berlin Heidelberg, 2010.
- [67] Vero Vanden Abeele, Lennart E. Nacke, Elisa D. Mekler, and Daniel Johnson. Design and preliminary validation of the player experience inventory. In *Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play Companion Extended Abstracts*, CHI PLAY Companion '16, page 335–341, New York, NY, USA, 2016. Association for Computing Machinery.
- [68] Vero Vanden Abeele, Katta Spiel, Lennart Nacke, Daniel Johnson, and Kathrin Gerling. Development and validation of the player experience inventory: A scale to measure player experiences at the level of functional and psychosocial consequences. *International Journal of Human Computer Studies*, 135(October 2019):102370, 2020.
- [69] George Varotsis. Complex narrative systems and the minimisation of logical inconsistencies in narrative and dramatic writing. New Writing, 16(2), April 2019.
- [70] Ivar E. Vermeulen, Christian Roth, Peter Vorderer, and Christoph Klimmt. Measuring User Responses to Interactive Stories: Towards a Standardized Assessment Tool, volume 6432 of Lecture Notes in Computer Science, page 38–43. Springer Berlin Heidelberg, 2010.
- [71] Mandy Visser, Marjolijn L. Antheunis, and Alexander P. Schouten. Online communication and social well-being: how playing world of warcraft affects players' social competence and loneliness. *Journal of Applied Social Psychology*, 43(7):1508–1517, 2013.
- [72] Ryan Vu. Fantasy after representation: D&d, game of thrones, and postmodern world-building. *Extrapolation*, 58(2–3):273–301, Jul 2017.

- [73] Nelson Wong, Anthony Tang, Ian Livingston, Carl Gutwin, and Regan Mandryk. Character sharing in world of warcraft. In Ina Wagner, Hilda Tellioğlu, Ellen Balka, Carla Simone, and Luigina Ciolfi, editors, *ECSCW 2009*, pages 343–362, London, 2009. Springer London.
- [74] Nick Yee. Beyond 50/50: Breaking down the percentage of female gamers by genre, Jan 2017.
- [75] Nick Yee, Nicolas Ducheneaut, Les Nelson, and Peter Likarish. *Introverted Elves & Conscientious Gnomes: The Expression of Personality in World of Warcraft*, page 753–762. Association for Computing Machinery, New York, NY, USA, 2011.

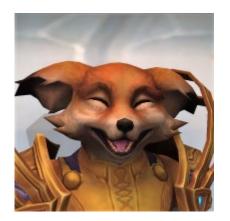
APPENDIX

Appendix A

Survey

Q1.1

Player Perception Towards Game Narratives: World of Warcraft



Champions of Azeroth, your aid is required!

Derrick M. Wang <Student Researcher> ?? Humanoid University of Waterloo dwmaru@uwaterloo.ca Lennart E. Nacke <Faculty Supervisor> +?? Elite Humanoid University of Waterloo len@uwaterloo.ca

You are invited to participate in a research study conducted by **Derrick M. Wang**, a Master's student under the supervision of **Dr. Lennart E. Nacke** in the HCl Games Group in **the University of Waterloo** in Waterloo, Canada. This research intends to learn about **your opinions on different forms of storytelling in World of Warcraft**. We are also interested in learning **whether prior experience has an impact on how you view the game's story**. With these insights, we will be able to help create better narrative systems in games that will eventually benefit you as well.

ELIGIBILITY

To be eligible to participate in this study, you need to be:

- 1) At least 18 years old,
- 2) Have played World of Warcraft

QUEST OBJECTIVES (STUDY PROCEDURES)

If you decide to volunteer, you will be asked to complete an **online survey**. The survey takes approximately 30 – 45 minutes to complete. Survey questions focus on your **experience and preferences while consuming the game's stories**, as well as demographic questions, such as gender and age. Participation in this study is **voluntary**. We will not collect your personal information.

You will also be invited to share your World of Warcraft character name, server, and the region in

which you play. This is optional; it is your decision whether you choose to provide this information. If you do provide it, the researchers will use this information to access your public profile. In particular, we will be taking notes of the following information from your profile and use the notes for research purposes: character achievements, gears, and content progression.

Participants also have the opportunity to enter a draw for one of three prizes of \$150 USD (or equivalent in your region's currency) in <u>Blizzard Balance</u> as an appreciation for their time(see details below). If you share your character name, server, and the region in which you play, the researchers will also use this information as a way to contact you, should you win the draw. If you prefer not to provide this information, you will have the opportunity to enter the draw by providing your Battle.net ID.

There are no known or anticipated risks from participating in this study. In case you feel uncomfortable reflecting on any question, you may skip that question or withdraw your participation at any time by closing your browser window. If you do this, any partial answers that you had already given will be deleted by the researchers and will not be used in the research. Once you have submitted your responses it is not possible to withdraw your consent to participate as we have no way of removing specific data from the analysis.

Q1.2

You will be completing the study by an online survey operated by Qualtrics®/University of Waterloo. When information is transmitted or stored over the internet, privacy cannot be guaranteed. There is always a risk your responses may be intercepted by a third party (e.g., government agencies, hackers). Qualtrics®/University of Waterloo temporarily collects your computer IP address to avoid duplicate responses in the dataset but will not collect information that could identify you personally. If you prefer not to participate using this online method, please contact one of the researchers so you can participate using an alternative method such as a paper-based questionnaire or telephone call. This alternate method reduces anonymity, but confidentiality will be maintained.

The data collected from this study will be maintained on the server operated by Qualtrics®/University of Waterloo and for at least eight years, and may be shared on the researchers' personal computers and the lab's local servers. These locations are all protected by password and only the listed researchers will have access. Additionally, data without identifiers may be made public. This data will be completely anonymous. This process is integral to the research process as it allows other researchers to verify results and avoid duplicating research.

Disclaimer: World of Warcraft, Warcraft and Blizzard Entertainment are trademarks or registered trademarks of Blizzard Entertainment, Inc. in the U.S. and/or other countries. Researchers conducting this study do not associate with Blizzard Entertainment, and will not share our findings

exclusively with Blizzard Entertainment. We may publish scholarly articles based on our findings. With permission, anonymous quotations in any thesis or publication that comes from this research. Please make sure to not include any identifying information when responding to open-ended questions.

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee. If you have questions for the Committee, contact the Office of Research Ethics, at 1-519-888-4567 ext. 36005 or ore-ceo@uwaterloo.ca.

For all other questions contact the researcher Derrick M. Wang at dwmaru@uwaterioo.ca or the
supervisor of the study Dr. Lennart Nacke at len@uwaterloo.ca.

Q1.3

REWARDS (REMUNERATION)

In appreciation of your participation in this study, you will be entered to a draw for one of **three prizes of \$150USD in** <u>Blizzard Balance</u>. Your odds of winning one of the prizes is based on the number of individuals who participate in the study. We expect that approximately 150 individuals will take part in the study. Survey will accept submissions from Feb. 15th to Feb. 28th, and the draw will take place around March/April 2021. Character information collected to draw for the prizes will be destroyed after the study has concluded, Battle.net ID information will be destroyed after the prizes have been distributed. The amount received is taxable. It is your responsibility to report this amount for income tax purposes.

Q1.4

Thank you for considering participation in this study. By agreeing to participate in the study you are not waiving your legal rights or releasing the investigator(s) or involved institution(s) from their legal and professional responsibilities.

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

Accept: I am 18 or over and I agree to participate. (1)
O Decline: I do not wish to participate (please close this web page now). (2)

Q1.5 I agree to the use of anonymous quotations in any thesis or publication that comes from this research.		
O Accept (1)		
O Decline (please close this web page now) (2)		
Start of Block: Game Demographics		
Q2.1 Thank you, Champion, for answering our call.		
These first questions will ask about your main character's information. Please note that sharing this information is completely voluntary. If you decide to share this information we will use this to access your World of Warcraft public profile for research purposes and use it to enter you into the draw (for one of three prizes of \$150 USD (or equivalent in your region's currency) in Blizzard Balance) and contact you should you win. If you prefer not to provide this information, you can still enter the draw by providing you Battle.net ID in the next question. Your information will remain confidential throughout the study.		
Q2.2 What region do you play your main character in?		
O Americas (510)		
O Europe (511)		
O Taiwan (512)		
O Korea (513)		
I will provide my Battle.net ID to enter the draw. (514)		
\bigcirc I prefer not to provide my consent information; I understand I will not be entered to the draw. (515)		

Q2.3 What server do you play your main character on?
▼ Aegwynn (5683) Zuluhed (5928)
Q2.4 What is your main character's name?

Q2.5 Here is a link to your character profile. Feel free to check if it is indeed your character. You can
always click on the back button to correct your information. When you are ready, click Next to begin the survey.
the survey.
End of Block: Game Demographics
Start of Block: Demographics
Q3.1 Greetings, Champion! We will now ask you a few demographic questions.

	18-24 years old (1)
	25-34 years old (2)
	35-44 years old (3)
	45-54 years old (4)
	○ 55-64 years old (5)
	O 65-74 years old (6)
	Prefer not to disclose (7)
Ų3.	3 To which gender do you most identify?
Ų3.	To which gender do you most identify? Female (1) Male (2)
Ų3.	Female (1)
Ų3.	Female (1) Male (2)
Ų3.	Female (1) Male (2) Non-binary (3)
	 Female (1) Male (2) Non-binary (3) Other (4)
End	Female (1) Male (2) Non-binary (3) Other (4) Prefer not to disclose (5)

Q4.2 Please name up to three games that you have enjoyed.					
O Game 1	O Game 1 (1)				
O Game 2	O Game 2 (2)				
O Game 3	O Game 3 (3)				
Q4.3 What aspect(s) of \${Q4.2/ChoiceTextEntryValue/1} did you enjoy? (Select all that apply)					
	Story (1)				
	PvE Battle (2)				
	PvP Combat (4)				
	Social (3)				
	Other (5)				
Q4.4 What aspect(s) of \${Q4.2/ChoiceTextEntryValue/2} did you enjoy? (Select all that apply)					
	Story (1)				
	PvE Battle (2)				
	PvP Combat (4)				
	Social (3)				
	Other (5)				

Q4.5 What aspect(s) of \${Q4.2/ChoiceTextEntryValue/3} did you enjoy? (Select all that apply)				
Story (1)				
	PvE Battle (2)			
	PvP Combat (4)			
	Social (3)			
	Other (5)			

Q4.6 When you play a game that has stories, how much do you agree with each of the following statements?

	Strongly disagree (36)	Disagree (37)	Somewhat disagree (38)	Neutral (39)	Somewhat agree (40)	Agree (41)	Strongly agree (42)
I will watch cutscenes (1)	0	0	0	0	0	0	0
I will read dialogues (2)	0	0	0	\circ	0	\circ	0
I will read quest descriptions (3)	0	0	0	0	0	0	0
I will skip cutscenes (4)	0	0	\circ	\circ	\circ	\circ	\circ
I will skip dialogues (5)	0	0	0	\circ	0	\circ	0
I will skip quest descriptions (6)	0	0	0	0	0	0	0

End of Block: General game questions

Start of Block: General WoW questions

Q5.1 How long have you been playing, or have played, World of Warcraft?

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



Q5.2 Ar	Q5.2 Are you still actively playing?				
\circ	Yes (1)				
\circ	No (2)				
Q5.3 Ho	ow much time do you usually spend playing \	NoW weekly?			
\circ	0 - 5 hours (6)				
\circ	6 - 10 hours (7)				
\circ	11 - 15 hours (8)				
\circ	16 - 20 hours (9)				
\circ	21 - 30 hours (10)				
0	More than 30 hours (11)				
O5 4 If	you play other games, how much time do yo	u spend playing them weekly?			
		a spena playing them weekly:			
	0 - 5 hours (6)				
0	6 - 10 hours (7)				
\circ	11 - 15 hours (8)				
\circ	16 - 20 hours (9)				
0	21 - 30 hours (10)				
\circ	More than 30 hours (11)	78			

Q5.5 How many characters do you have in WoW?
O 1 (1)
O 2 - 5 (2)
O 6 - 10 (3)
O 11 - 15 (4)
O More than 15 (5)
Q5.6 How many of them have you leveled to at least level 50 (or 120 pre-Shadowlands revamp on October 13, 2020)?
O (11)
O 1 (12)
O 2 - 5 (13)
O 6 - 10 (14)
O 11 - 15 (15)
O More than 15 (16)

Q5.7 How do you usually level your character(s)? (Select all that apply)				
(Questing in the same zones you have experienced before (1)			
	Questing in zones that you have NOT experienced (2)			
	Farming dungeons (3)			
		Other (4)		
Q5.8 -	Can you e	laborate a little on why you choose to level in such a way?		
-				
_				
_				

Q5.9 What aspect(s) of WoW do you enjoy? (Select all that apply)					
	Story (1)				
	PvE Battle (2)				
	PvP Combat (4)				
	Social (3)				
	Other (5)				
	None (6)				
Q5.10 What as	Q5.10 What aspect(s) of WoW do you dislike? (Select all that apply)				
	Story (12)				
	PvE Battle (13)				
	PvP Combat (18)				
	Social (14)				
	Other (16)				
	None (17)				
Q5.11 Can you enjoy?	elaborate a little on the aspects you enjoyed about WoW? What specifically did you 81				

	_
Q5.12 Can you elaborate a little on the aspects you disliked about WoW? What spedislike?	ecifically did you
	•
End of Block: General WoW questions	
Start of Block: WoW Narrative specific questions	
Q6.1 Now, let's talk about WoW's storytelling.	

Q6.2 How much do you agree with the following statements?

	Strongly disagree (8)	Disagree (9)	Somewhat disagree (10)	Neutral / No comment (11)	Somewhat agree (12)	Agree (13)	Strongly agree (14)
I enjoy WoW's story (1)	0	0	0	0	0	0	0
I would be motivated to play WoW even without the narrative (2)	0	0	0	0	0	0	0
I feel that stories are needed in the game (3)	0	0	0	0	0	0	0
The story added more value to the game (4)	0	0	0	0	0	0	0
My immersion comes from the story (5)	0	0	0	0	0	0	0
I think WoW does not need stories (6)	0	0	0	84	0	0	0

I play WoW for the story (7)	0	0	\circ	\circ	\circ	\circ	0
I feel that I cannot play the game without the story (8)							0

Q6.3 Please rank the main stories of WoW's expansions from **1 to 9**, with 9 being your most favorite, and 1 being your least favorite.

	Did not play (11)	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)
Shadowlands (1)	0	0	0	0	0	0	0	0	0	0
Battle for Azeroth (2)	0	\circ								
Legion (3)	0	\circ								
Warlords of Draenor (4)	0	\circ	0	0	\circ	\circ	\circ	\circ	\circ	0
Mists of Pandaria (5)	0	\circ								
Cataclysm (6)	0	\circ								
Wrath of the Lich King (7)	0	\circ	0	\circ						
The Burning Crusade (8)	0	0	0	0	0	0	0	0	0	\circ
Vanilla World of Warcraft (9)	0	\circ	0	0	0	0	0	0	0	0

86

Q6.4 Stories are told in many ways. Are you aware of these forms of storytelling in WoW? Which ones do you watch, and which ones do you skip? (Click on each item for an example. Minor **Battle for Azeroth** spoiler if you have not played through the expansion!)

	Aware (1)	Watch/Read (2)	Skip (3)
Cinematics (1)			
Pre-rendered Cutscenes (2)			
Real-time Cutscenes (3)			
Voiced dialogues (4)			
Optional voiced dialogues (5)			
Text dialogues (6)			
Quest description text (7)			
Flavor text (8)			
Non-cinematic animations (9)			
Comics (10)			
Novels (11)			
Others (12)			

87___

		-
		-
		-
 		 -

Q6.6 Please rank these forms of storytelling from **1 to 11**, with 11 being your most favorite, 1 being your least favorite.

	Do not watch/read (1)	1 (2)	2 (3)	3 (4)	4 (5)	5 (6)	6 (7)	7 (8)	8 (9)	9 (10)	10 (13)	11 (11)
Cinematics (1)	0	(((((((((
Pre- rendered Cutscenes (2)	0	((((((((((C
Real-time Cutscenes (3)	0	((((((((C	C	C
Voiced dialogues (4)	0	((((((((C	C	C
Optional voiced dialogues (5)	0	((((((((C	C	C
Text dialogues (6)	0	((((((((C	C	C
Quest description text (7)	0	((((((((C	C	
Flavor text (8)	0	((((((((
Non- cinematic animations (9)	0	((((((((C	C	C
Comics (10)	0	((((((((((
Novels (11)	0	(((90) (((C	C

Q6.7 How impo	ortant is it for you to have a variety of storytelling in games you play?					
O Extrem	Extremely important (1)					
O Very in	O Very important (2)					
O Moder	O Moderately important (3)					
O Slightly important (4)						
O Not at all important (5)						
Q6.8 What are	the top reasons you have skipped or will consider skipping certain parts of the story?					
	I find it time-consuming. (1)					
	I think it is boring. (2)					
	I need to finish leveling quickly. (3)					
	I have played through this zone's story already. (4)					
	Others (5)					

	skipped, or when you consider skipping certain parts of the story, do you find sewhere to learn about what happened in the story?				
O Yes (1	O Yes (1)				
O Maybe	e (2)				
O No (3)	O No (3)				
Q6.10 Do you	watch WoW content outside the game? What do you usually watch?				
	⊗ No (1)				
	Posts from official forum (2)				
	WoW or WoW related subreddits (3)				
	Information sites such as Wowhead and Icy Veins (4)				
	Twitch stream (5)				
	Youtube Videos (6)				
	Discussion with other people (friends, family, etc.) (7)				
	Other (8)				
End of Block: WoW Narrative specific questions					

Start of Block: BFA specific questions

Q7.1 Now, we would like to ask about your opinions on the story of the Battle for Azeroth expansion. If you have no knowledge of its main story, the War Campaign or the raids' stories, and

	to remain spoiler-free, we thank you for your participation and you may select No on the on and end this survey.				
Q7.2 Have	you played through the following stories in the Battle for Azeroth expansion?				
	Kul Tiras main story (Alliance) (1)				
	Zandalar main story (Horde) (2)				
	War Campaign (Horde) (3)				
	Ny'alotha raid story (4)				
	⊗ None (6)				
Q7.3 Woul	d you like to continue with this part?				
○ Ye	O Yes, and I understand there will be spoilers (1)				
○ Ye	O Yes, but I would like to remain spoiler-free for parts I have not played through (4)				
O No	, I will skip to the next part (5)				

Q7.4 How did you like the separation that Alliance and Horde characters experience completely different and exclusive stories?	
O Like a great deal (1)	
C Like a moderate amount (2)	
C Like a little (3)	
O Neither like nor dislike (4)	
O Dislike a little (5)	
O Dislike a moderate amount (6)	
O Dislike a great deal (7)	
Q7.5 Which character did you use to play through the main story of the opposite faction to your main character's?	
O An existing alt (1)	
Created a new alt for the story (2)	
Other (3)	
Q7.6 During the Horde War Campaign, Highlord Varok Saurfang and Warchief Sylvanas Windrung entered a heated debate that almost resulted in a civil war amongst the Horde. The game gave y the option to pledge your loyalty to one of them be a rebel under Saurfang's banner or a loyato the Warchief.	ou

Q7.7 What cho	pice(s) did you make?			
	Rebel (1)			
	Loyalist (2)			
	◯ I have not played through this story (3)			
Q7.8 Which ch	paracter did you use to play through the other choices to your main character's?			
O An existing alt (1)				
Created a new alt for the story (2)				
Other	(3)			

 $\ensuremath{\mathsf{Q7.9}}$ For branched stories like this, how much do you agree with the following statements?

	Strongly disagree (8)	Disagree (9)	Somewhat disagree (10)	Neutral / No comment (11)	Somewhat agree (12)	Agree (13)	Strongly agree (14)
I enjoy making meaningful choices (1)	0	0	0	0	0	0	0
I don't think the War Campaign allowed me to make meaningful choices (2)	0	0	0	0		0	0
I would be more motivated to play WoW if there are more branched stories (3)	0		0	0	0	0	
I feel compelled to experience all possible branches of the story (4)	0		0	0		0	0

I think branched stories add little value to the game's overall narrative (5)	0	0	0	0	0	0	0		
I hope the choices I made makes an impact in future stories (6)		0	0	0	0	0	0		
Q7.10 Usually, a cutscene is played at the end of the final raid boss, with important lore information that directly ties in the beginning of the next expansion's story. The Ny'alotha raid chose to use a real-time cutscene that puts your character in the center, which has been criticized for being too crude and unfitting for an expansion's final boss. In your opinion, do you prefer to see cutscenes that feature your own characters but not as visually appealing, or ones that are more cinematic, but only with non-player characters (NPC)?									
O Includ	le my own cha	racters (1)							
O More cinematic (2)									
O None of the above (3)									
End of Block: BFA specific questions									

Start of Block: Main Story questions

Q8.1 Over years of development, WoW has attempted to tell its stories in many kinds of ways. Let's
discuss how the game tells every expansion's main stories.

Q8.2 The game's newest expansion, Shadowlands, features a linear storytelling. Commonly known as the "main story campaign", this type of storytelling asks players to experience a single, cross-zone storyline that's presented in the specified order. To unlock the end-game content, players not only need to reach the maximum level, but also need to finish the storyline.

How much do you agree with the following statements?

	Strongly disagree (16)	Disagree (17)	Somewhat disagree (18)	Neutral / No comment (19)	Somewhat agree (20)	Agree (21)	Strongly agree (22)
I enjoy following a linear story (1)	0	0	0	0	0	0	0
I believe the main story campaign makes the game's story more complete (2)			0	0		0	
I think the main story campaign adds little value to the game (3)	0	0	0	0	0	0	
I find the main story campaign too restrictive (5)	0	0	0	0	0	0	
I would like to see more campaign stories (4)	0	0	O 101	0	0	0	0

Q8.3

In the past, the Battle for Azeroth expansion featured a War Campaign which spanned multiple zones, but its leveling experience, and that of the previous expansion, Legion, both consisted of a number of zones that can be played in any order and whose stories are largely independent to each other. When players reached the maximum level of the expansion, they were given access to the end-game content right away.

How much do you agree with the following statements?

	Strongly disagree (16)	Disagree (17)	Somewhat disagree (18)	Neutral / No comment (19)	Somewhat agree (20)	Agree (21)	Strongly agree (22)
I enjoyed leveling in zones and orders of my choice (1)	0	0	0	0	0	0	0
I believe a more free leveling experience makes the game more playable (2)	0	0	0	0	0	0	0
I think the leveling zone choice adds little value to the game (3)	0	0	0	0	0	0	0
I believe the independent storylines make the storytelling less coherent (6)	0	0	0	0	0	0	0
I felt compelled to complete all zones to experience the entirety of the story (7)	0	0	0	0		0	
	l		1	0.4			

I would like to have some freedom in how I level (4)	0	0	0	0	0	0	0
Q8.4 What wou	ld you like yo	ur game exp	erience regar	ding leveling	and story pr	ogression t	o be like?
End of Block: M	ain Story que	estions					
Start of Block: A	Additional cor	mments					
Q9.1 Thank you enough to be ra delivery of your	ndomly selec						
If you have any feel free to leave				_		-	_
			105				

Start of Block: End of survey

Q10.1

Player Perception Towards Game Narratives: World of Warcraft



Champions of Azeroth, your aid is required!

Derrick M. Wang
<Student Researcher>
?? Humanoid
University of Waterloo
dwmaru@uwaterloo.ca

Lennart E. Nacke <Faculty Supervisor> +?? Elite Humanoid University of Waterloo len@uwaterloo.ca

STUDY OVERVIEW

The objectives were to study the players perception toward different forms of storytelling by using a well-known MMORPG, World of Warcraft that utilizes at least eight forms of storytelling in games. The level of players perception could be evaluated by their awareness of the story telling forms that WOW provides; how often do they watch/skip them and their preferences with the game story telling forms. This data will be used explore the importance of game narrative forms and potentially provide guidelines for game designers on how to prioritize and create more relevant narrative forms in games that more audiences can enjoy and experience with same intended experience. So that players may retain the freedom to choose how to play with no fear of missing crucial narrative points of the game. If you have any questions, feedback, or concerns about the study or related research, or would like to receive a copy of the study results, please contact any member of the research team listed above.

CONFIDENTIALITY AND SECURITY

If you have provided contact information, it will not be included in any thesis or publication resulting from this study. Electronic data collected during this study will be maintained on the server operated by Qualtrics®/University of Waterloo and for at least eight years, and may be shared on the researchers' personal computers and the lab's local servers. These locations are all protected by password and only the listed researchers will have access. Additionally, data without identifiers may be made public. This data will be completely anonymous. This process is integral to the research

process as it allows other researchers to verify results and avoid duplicating research.

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee (ORE #42757). If you have questions for the Committee contact the Office of Research Ethics, at 1-519-888-4567 ext. 36005 or ore-ceo@uwaterloo.ca. For all other questions, feedback, or concerns regarding this research study, please feel free to contact any member of the research team listed ats the top of this letter.

REWARDS (REMUNERATION)

If you have chosen to enter the draw by providing your main character's information or yourBattle.net ID, and are selected for a prize, we will use a lab account to reach out to you in-game (or through Battle.net if you chose to provide your Battle.net ID) to deliver the prize. We expect that approximately 150 individuals will take part in the study. Survey will accept submissions from Feb. 15th to Feb. 28th, and the draw will take place around March/April 2021. All the above dates are estimates and will be adjusted based on the date of ethics approval, with the initial start date expected to start directly after approval.

Thank you again for your time in participation and providing us with valuable opinions.

End of Block: End of survey

Glossary

- **Alts** Short for alternate characters, or *alter-ego*, these are characters additional to the main character of each player. 11, 45, 53, 58
- **NPC** Short for Non-player Character, characters controlled by the game's system to interact with players to perform game actions [5]. ix, 17
- **PvE** Short for Player versus Environment, e.g. when players combat computer-generated and controlled enemies [5]. 5, 7, 32, 34, 35
- **PvP** Short for Player versus Player, e.g. when players combat other players [5]. 5, 7, 32, 34, 35, 44, 54