A Bigger Fish to Fry

Assessing Learning in World of Warcraft

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Abstract
In light of recent academic attention towards the educational potential of games, this article offers Howard Gardner's multiple intelligences theory of the mind (M.I.) as a way to assess the learning process in playing massively multiplayer online role-play games (MMORPG). The eight intelligences present a summary of abilities much valued in cultural, social and economic professional practice whereby cultivating them prepares individuals for professional fields. This article presents how MMORPG WORLD OF WARCRAFT (Blizzard 2004) offers rich experiences in which intelligences are addressed. Game practices are surveyed to this end with M.I. not as criteria but as reference point.

Introduction

Playing games has become a necessary part of leisure time of gamers around the world. Since leisure is often seen as separate from work or school, fun in games is rarely connected to learning. Nonetheless, editor of *Edge* magazine Margaret Robertson claims that humans love games because they allow us to do what our brains does best (NLGD 2006). Our brains master patterns and fun is an outcome that results from this activity (Koster 2005:98). If games are about brain training, then the assertion that players learn things is not such a distant idea. In the last couple of years, several experts operating from different fields have been ringing the bell on the educational value of playing games. Underlying notions of these experts is the capacity of games to provide its players with an environment in which attributes valuable in contemporary working space are exercised.

Educator James Paul Gee, for example, claims that players advance in the game through a cycle of forming hypotheses and testing similar to scientific approaches (2003) attributing to the process of sense making, which he dubs *literacy.* Similarly, game researcher Constance Steinkuehler, an advocate of social distributed cognition, argues that forms of play such as those entailed in massive multiplayer online role-play games are not replacing literacy activities but rather are literacy activities (2005:100). To Gee and Steinkuehler, literacy is an indication of learning.

From the commercial perspective, business strategists John C. Beck and Mitchell Wade claim that gaming is an effective training camp for critical business skills (2004). They conclude that employees with game experience are highly committed and team-oriented professionals possessing valuable attributes such as measured risk taking, the ability to multitask and leadership skills.[1] Similar attributes are signaled by game researcher Lisa Galarneau and game simulation expert Melanie Zibit as a 21st century competences obtained communities of practice that games offer (Galarneau & Zibit 2006:50). They argue that IT professor Christopher Dede's "forging connections, handling information and thriving in chaotic environments" the core of 21st century skills are typical gamer attributes (Ibidem).

Elsewhere, in cognitive developmental psychology, Howard Gardner and cohorts express how simple games could possibly have educational benefits (Moran e.a. 2006). These games address multiple intelligences whereby information is internalized through *rich experiences* (Ibidem). The Multiple Intelligence approach (M.I.) introduced by Gardner a social-cognitive categorization of mental and physical capabilities which he referred to as intelligence. Originally developed as an explanation of how the mind works the multiple intelligences theory model is now used in teaching as the basis for a learner-centered approach (Gardner 1983; Gardner 1999; Gray 1994; Moran e.a. 2006; Silver e.a. 2000; Warmelink 2007).

Underlying the use of all intelligences is symbol differentiation and change management. Therefore, learning is about facilitating learners to be 'symbol analysts' and the 'masters of change' in contemporary professional practice (1999:2). The symbol analyst discerns symbols displayed in a computer screen, while the master "readily acquires new information, solves problems, forms "weak ties" with mobile and highly dispersed people, and adjusts easily to changing circumstances" (Ibidem). This description is very much in line with Galarneau and Zibit's forging connections, handling information and thriving in chaotic environments.

Thesis

At the moment the reigning thought concerning the educational benefits of games, is that they are only educational if they are designed with the purpose of teaching. These games have educational content, Shakespeare´s texts, mathematical equations and the like. An alternative

1 With two thousand questionnaire participants and two hundred interviewees from different companies and institutions all over the United States

approach is rather put educational value in games[2], the focus should be first on the learning that can be found in existing games (Galarneau 2007). Though several attempts have been made to chart learning in games, a clear frame of reference is yet lacking (Gee 2003; Steinkuehler 2005; Rancuret & Pulmano *draft*).

This paper is about defining the learning process of playing games specifically MMORPGs by using the well-endorsed approach to learning the M.I. approach as a reference point. What I argue then, is that games provide a rich learning environment which allows players to assess multiple intelligences simultaneously. Since symbols are at the very basic components of a game, play is learning to recognize and understand symbols in symbols systems and to yield an array of symbolic produce valued within the cultural setting of which the symbols are part of. The symbols and symbol system are in constant flux due largely to the dynamic game design, the flow of players and because players are always looking for ways to better their game. Change is a regular part of play and players are lead to continually set goals. The result is that there is always a bigger fish to fry.

Method & Approach

In order to make this argument, I surveyed several gaming practices in the MMORPG WORLD OF WARCRAFT (WoW). WOW was chosen for its large share in the multiplayer game scene: it currently hosts eight million players worldwide[3]. Moreover, WOW is identified as a large learning environment or 'community of practice' by a number of researchers (Steinkuehler 2005; Galarneau & Zibit 2006). The data I present is the result of months of ethnographic research conducted in a European game realm of WOW narrowed down to several game practices. With ethnography I refer to the approach primarily based on fieldwork that that presents either qualitative or quantitative descriptions of human social phenomena (Clifford 1986:2). The method of participatory observation entailed in ethnography is useful for the description of characteristic attitudes, behavior patterns and values. It adheres to game researcher Espen Aarseth's *playing researcher* (2003). Aarseth argues that "if we have not experienced the game personally, we are liable to commit several misunderstandings" (Ibidem). Yet Aarseth neglects to discuss that the experience method decides the content and direction of the written work. It means that readers are subjected to the personal journey of the researcher. The lack of transparency of representation and the immediacy of experience has lead anthropologist James Clifford see ethnography as "partial truths" (1986:7). Nevertheless, this objection is the alternatively the same point that lends its strength: ethnography underlines that all research and interpretations are subjected to the viewpoint of the writer. In this light, there is no such thing as absolute transparency in any sciences. The closest one can get to transparency is by presenting a step-by-step description of the process.

Chapter Outline

The following chapter offers detailed descriptions of several game practices. Gaming practices are presented prior to the discussions of M.I. and games research because this indicates the sequence of my research. Instead of forming criteria with which would pre-structure the collected ethnographic data, I chose instead to study the game space independently. Furthermore, this sequence shows that M.I. and game research are not to be used as frameworks; rather, they are references to clarify social and educational processes occurring in this particular game. The description is needed for the analysis of game practices in chapter four in which I assess how these game practices address multiple intelligences. However, an assessment using M.I. as a reference needs a brief description of the theory. Therefore chapter three offers a clarification of the different attributes of the multiple intelligences. This is followed by the assessment in chapter four of how game practices address several intelligences simultaneously thereby providing the rich experience M.I. theorists plead for.

2 which is the main tenet in the Serious Games industry

3 Source: http://www.warcraftrealms.com/

Examining Game Practices

Blizzard's WoW is a massively multiplayer online role-playing game run on a pay-for-play system (2004). The game world blends elements of popular fantasy, mythology and various theological beliefs into a unique world of its own. The game rules are focused on progressive play: the object of the game is to reach the level cap. The free-roaming nature of the game gives players great freedom to choose how to conduct the regular gameplay of questing, leveling, dungeons and battlegrounds.

For eight months I participated in game events. Data I collected is used with permission of all players involved, consisting of screenshots, chat logs, posts on the group forum and information on the Internet. The following paragraphs illustrate a handful of reoccurring activities grouped into two themes: character development and guild interactions. The first part, character development, concerns the first experiences of the game in exploration and the progressive play from which optimization emerges. Optimization takes place once a player masters battlegrounds, questing and instancing and this determines the development of the player's character and their player skill. Development is further strengthened by group interactions particularly in units called guilds. It is within a guild that most players succeed to master the game in ways that they would not have done on their own.

Character Development

Exploration
When I first started playing WOW, the first thing I did was create a character. WoW's original version offers players the choice between gender and characters out of two opposing factions with each four races and up to seven classes are available per race. Most players try out several combinations for distinct game experiences. I chose first a human magician that I named Shanuel and after a few months I started playing also with a Night elf priest whom I named Swing. Succeeding the choice-making in race and class was the character's appearance in a starter area. Exploration in the starter area practically refers to understanding the interface (knowing which keys are used for which act), way-finding in the 3D world the game offers and mastering certain areas. In first stage, players learn to identify icons, know when and which icons to employ within certain situations, make the finger and key interaction a habit, and learn to use a map while learning to use the mouse to navigate the character.

As a first-timer, I got lost in the starter area and watched as my character Shanuel die countless times as a result of my ignorance of the navigational keys. Subsequently, I read the manual. The game also offers a tutorial; something which I learned was present after reading the manual. I later was told that many players do not read the manual and many turn off the tutorial. They learn navigation and game rules through trial and error: if pressing one key connected to one icon does not have the desired effect, they try another. Another way to learn the game mechanics is asking a more experienced player to offer instructions. They invoke also their extensive background of game experience. Despite the complexity action sequences and iconography many players assume control over navigation ever so naturally and quickly. I will give an example of the complexity of actions to perform and my introduction to the richness of symbols the game offers.

To move my character, I had to click and move my mouse simultaneously. The movements such as "walk", "run", "turn left" and "turn right", are also automatically mapped on the keyboard keys of W, A, S, D. A mere sample at the back of the manual offers a sample of fifty hotkeys (!). Engaging in combat means left mouse clicking on a monster to select it and right mouse clicking lets the character attack it. Selecting a non-player character brings up a mini image or portrait at the upper hand corner of the screen. Characters marked yellow were peaceful and those marked red hostile (as I experienced too often in my first levels). Furthermore, an icon appears over the mouse

cursor when mousing over that character and a tool tip with information appears at the bottom of the screen. If the mouse arrow turns into an icon of a sword then that character is attackable. What I have mentioned above is merely the beginning. Despite that the list of complex sequences grows cumulatively as the player progresses in the game, players master them all.

When I finally got navigation some what under control, I turned my attention towards the tasks called a quest that I picked up from an NPC with a yellow exclamation point above his head (a quest giver). Moving my character to several places in the area to complete this first task allowed me to find more quest givers. Navigation through the area required using the area map many times (figure 1 in the Appendix). Once areas are engraved in memory, players only use the mini-map or do not use both maps at all. For these players, visual and audio cues are enough to navigate their characters around various mountains, hills, plains, peaceful and aggressive NPCs and monsters. Navigating in such an intensely rich space allows players to develop sensitivity to audio and visuals that lead to a greater ability to differentiate symbols (Koster 56). With "symbol" I mean all visible (and audible) elements in a game.

Grouping

The main goal of the game is to get from level one to the level 70. To advance in levels a player must learn to utilize the abilities and items acquire experience points. Experience points are acquired by completing game tasks called quests, finding new areas and killing enemies called mobs. Leveling is a relatively unique experience for every player, since the game offers a whole range of choices in areas and quests. Furthermore, each race has its own starter area and each class a separate set of quests, thereby allowing players to build up a different game history. Grouping is always a possibility and usually amounts to more effective play. For this reason, players form parties to complete quests that would otherwise be too difficult to do alone or would take longer to accomplish if done solo. In group efforts, players assign tasks to each other, advice each other, make known their intentions to one another, they get their opinions and knowledge across, etc. Often task division is done based on effectiveness. Characters with heal abilities heal the classes that deal damage. Melee classes that can hold the attention of enemies keep the damage away from healers and spell casters. In this way, interdependence encourages planning and discussing group tactics. Division is done naturally, since players understand through the game principles that working together and using each other's abilities to each other's advantage is more effective than not dividing tasks. Note however, that this is the ideal case. Obviously in such a rich player environment, conflicts among players are not uncommon. An example of handling conflict is during an instance, which is a separate part of a game that a group of players enter to complete quests, gain valuable loot (items) and experience points.

Members of a particular group I became member of, a guild called the Outriders offered to take Shanuel to an instance called Scarlet Monastery for the first time. At a certain point, the melee character of the instance group charged ahead while others were not ready, resulting in Shanuel's death. The healer could not reach her on time because she was caught off guard.

Transcript 1: Instance Run [23-07-2006][4]

[Party] Cozystone: Were the rest of us ready?
[Party] Lorriena: What happened there?
[Party] Shanuel: ooo that was waste of mana
Gelon whispers: Could you stay back a bit? You drew two adds.
[Party] Cozystone: Gelon ran ahead because he was bored or impatient.
[Party] Gelon: Cozy, he was alone.
[Party] Cozystone: Want to explain, Gelon?
To Gelon: k
[Party] Gelon: Certainly.
[Party] Lorriena: Naughty Gelon...

[4] All transcripts are edited for clarity: the original transcript had lines from other chat channels

Cozystone waits.
[Party] Gelon: What happened was, i charged a lone mob.
[Party] Gelon: He was ALONE. With the rest of you backing me up.
[Party] Shanuel: and I agrood...*sorry*
[Party] Cozystone: Sorry if I'm being hardline on this, but I believe that working well in a group requires co-operation.
[Party] Cozystone: And I wasn't ready to back you up.
[Party] Cozystone: No healing.
[Party] Gelon: You weren't?
[Party] Cozystone: Lorr. Were you ready?
[Party] Schatten: we just dont know this area like you do...I just error on the side of caution and wasnt sure if others would add or not
[Party] Cozystone: Schatt - you?
[Party] Lorriena: Wasn't prepared. Yes, we could handle them but that's not the point.
[Party] Schatten: well I wanted to make sure that we were ready for adds as I wasnt sure if there were any
You let out a long, drawn-out sigh.
[Party] Gelon: Allright allright. Let's cut the argument short and blame my impatience, allright?
[Party] Lorriena: *chuckles* Ok then.
[Party] Cozystone: Can you cope with slowing down to the speed the rest os work at?
[Party] Gelon: Of course.

It is clear from the healer's (Cozy) questions "Were the rest of us ready?" and "Want to explain, Gelon?" that she was not happy with the warrior's (Gelon) solo action. She even corrected his undesired behavior by stating: "Sorry if I'm being hardline on this, but I believe that working well in a group requires co-operation." Another member (Lorriena) underlines Cozy's words as she remarks "Naughty Gelon...". Judging from Gelon's reaction - "Allright allright. Let's cut the argument short and blame my impatience, allright?" - he does not welcome the criticism, yet he does slow down when Cozy asks him to. Although Gelon would have preferred a faster pace, he adapted to the group's wishes thereby solving the conflict. He continued to do so as the run brought different challenges. The following transcript shows how players discuss strategy.

Transcript 2: Instance Run [23-07-2006]

[Party] Schatten: watch the chaplain walking about
[Party] Cozystone: Whatcha sheeping, Shan?
[Party] Shanuel: the chaplain...
[Party] Shanuel: or do you want me to sheep left?
[Party] Gelon: Right, may i charge the dreadful two scarlet baddies?
[Party] Gelon: Think it would be faster to just take them both.
[Party] Schatten: sheep left
[Party] Cozystone: Schatten's in charge.
[Party] Schatten: chaplain adds and we can sheep or offtank with Cozy
[Party] Gelon: As Schatten commands then-.
[Party] Shanuel: ok sheeping left rdy?
[Party] Cozystone: r
[Party] Schatten: rdy
[Party] Gelon: Ready.
[Party] Lorriena: r

Gelon proposes to take on two enemies one at a time but is reminded by Cozy that it is Schatten who they should listen to. Schatten's proposal is to render one mob temporarily useless by turning him into a sheep (a mage's spell) and every one agrees on this decision. In this example, we see that the group members discuss which strategy to follow. In such a short time, an efficient decision was made while each group member's contribution was considered. At the end of the instance, Shanuel gained enough experience points to up two levels. Her bags were full with valuable items and her equipment got a boost with new armor pieces and weapons. Experience points and loot are the two main reasons players eagerly repeat instance runs. Though, creator Blizzard Entertainment does not provide maps for these areas. Instead players generate their own maps, guides and develop software to optimize play in instances (Figure 2 in the Appendix is an example of a player generated map).

Optimization
Information management and item acquirement are reoccurring activities since players need to perform them in order to level. One quest or battle is part of a large plan; players always have a 'bigger fish to fry'. The more players know and understand the underlying principles of game elements and the game system as a whole the more inclined they are to find ways to optimize their game in ways other than outlined in the manual[5]. Optimization occurs in many ways: as mentioned above they generate maps, guides and software; they discuss combinations of skills and equipment and develop strategies for combat, quick questing and ways to earn gold. The interesting part of this is that players share their knowledge with the whole community by publishing their pieces online.

As a player gains experience points, it also gains points to distribute on its character's talent tree. Each class has three specific schools of attributes. By choosing to spend points on specific schools, the player enhances specific abilities of the character. Different talent builds have different effects on the character's powers. For example, Shanuel as a mage may choose from the schools of arcane, fire and frost spells (figure 3 in the Appendix shows three tab sheets of the different schools a mage has). Upon the advice of an experienced player, I tried out different schools to see which one worked the best for me. Frost spells apparently need less mana points (used to cast spells) than fire spells, which means that in the long run, they can fire more spells. Yet fire spells deal a lot more damage, which means that the mob is killed faster. I first put all my points on frost but a few levels later, I found myself studying what the school of arcane had to offer. I eventually put some points in arcane on spells that heightened the damage of all my spells and spells that limited the use of mana, which meant that in the long run I would have more mana to spend. Prior to this choice I spoke to a number of mages I knew from the game and searched the internet for mage builds. On one of the countless sites that I found, was an entire guide for playing the mage class, including an extensive explanation of the different talents. This is a sample for my preferred school of frost.[6]

> Frost - Tier 3 (10 Talent Points Required)
> Piercing Ice (0/3) - Increases the damage done by your Frost spells by 2%.
> Cold Snap (0/1) - When activated, this spell finishes the cooldown on all of your Frost spells.
> Improved Blizzard (0/3) - Adds a chill effect to your Blizzard spell. This effect lowers the target's movement speed to 70%-30% of normal. Lasts 1.50 sec. (unless improved by Permafrost)
>
> For a Frost Control build you would be better served to put 3 points into Improved Blizzard, Coldsnap and 1 point in Improved Frost Nova, Permafrost or Winter's Chill. Such builds may be required by your guild for Nefarian and other AOE encounters where slowing and freezing massive numbers of NPCs is necessary.

I noticed that every percentage a talent added made a tremendous difference in Shanuel's powers. Therefore, players have countless discussions all over the web about different talent builds. Players have even designed free software to calculate talents and even to rate that of others.[7]The effects of talent attributes are greatly increased with the certain equipment. As a result, players also have countless discussions among themselves concerning what equipment to use for which race, class, level and talent build. The figure 4 in the Appendix shows Shanuel's equipment window. Of all the statistics beneath the heading "Base stats", intellect (determines number of mana points), stamina (determines number of health points) and spirit (determines the speed of which points for health and mana are restored) are most important for a spell caster. The higher the intellect, the more spells he or she can cast thus the more damage is dealt. The higher the stamina the longer the character stays alive and high spirit stats lead to a speedy restoration.

[5] A practice that is often referred to as *emergent gameplay*.
[6] Source: *Mage Talent build,* http://wow.warcry.com/content/guides/class/mage/1.php (Accessed August 2006)
[7] One WoW talent build calculator: http://www.wowhead.com/?talent (Accessed November 2006)

With this in mind, I was overjoyed when a guild member decided to give me the staff weapon as a gift (illustration on the left). This particular staff is a particularly power weapon, considered epic. It deals thrice as much damage as its predecessor and added among other things +29 intellect to Shanuel's stats. The +20 spirit is extra, added by guild member whose character possessed the trade skill of enchanting.

Strategy

Besides utilized in quests and instances, strategic planning is particularly visible in player-versus-player (PvP) battlegrounds. Battlegrounds (BG) allow a certain number of players in faction combat. Since BG combat is usually short in duration, PvP oriented players carefully select a talent build and equipment that will deal tremendous damage in a matter of seconds. Players are known for switching gear before entering combat. Some players group together before they enter PvP combat. More often, however, players enter a battleground to cooperate with complete strangers. Failure to cooperate effectively obviously leads to defeat. Victory in battlegrounds is greatly influenced by several factors. Two factors for example are player skill and player group strategy. I share an experience I had with the first battlegrounds players enter: Warsong Gulch.

Warsong Gulch (figure 5 in Appendix) is a ten man per faction against faction battlefield. The object is to capture the flag from the base of the opposing faction three times while retaining your own. The general strategy is keeping a few players to guard the flag and sending out the rest to retrieve the enemy flag. One player however, devised an alternative plan. He alone set out to retrieve the flag and left others to guard. His character called the Paladin had a combination of healing and melee attributes, which he used to keep his character alive: he continually self-healed; he casted a Paladin ability to remove hexes that slowed him down; he casted a temporary invincibility spell to minimize damage. His character's defensive gear of shield and high armor contributed to his long life. At the same time, he accelerated the running speed of his character through swiftness potions and speed enchantments on footgear.

This strategy resulted in a succession of victories until he encountered another character class guarding the flag: the Priest. The primary attribute of the Priest is healing, however, the Priest is also capable of letting an enemy flee in terror and mind controlling an opposing character. The paladin could withstand the fear spell with class attributes and a trinket, but mind control was another thing. The Priest temporarily took control of his character, thus hindering him from retrieving the flag and bringing his character in the vicinity of enemy characters. The Paladin countered this trick with the help of the Rogue. The Rogue moved in stealth into the opposing base to either kill the priest or temporarily render him senseless. With just two of them in offence, eight other players remained behind to guard the flag.

Gold Farming

Progression and optimization is also visible is through *gold farming*, a term referring to acquiring gold within a short period of time. Players invest time in earning gold since this allows them to buy equipment, learn new spells and skills. One player needed gold to buy a swifter steed to shorten travel time. Since he figured that the given ways for earning gold was not adequate and quick enough to get him is desired steed, he devised an alternative plan. He let his character enter a level 52-60 instance called the *Black Rock Depths.* This plan was certainly an alternative one, since instances are designed to be done with several players. Using the character's invisibility skill called *prowl*, he sneaked past enemies to a boss named *Roccor*. Against this enemy, the player devised a particular combination of abilities in combat. *Roccor's* corpse, as with any other NPC, offers valuable loot items that players either equip or sell for high prices at the game's Auction House. The player succeeded in doing the run repeatedly thereby earning a large

amount of gold in a limited space of time. He documented it in a very clear piece of video, meticulously explaining when to use what ability. This documentation is now available in many WoW related websites and even a video clip website such as *Youtube.*com.[8] Though alternative, this effort is not uncommon. Players continually devise and share plans with several kinds of mobs in different areas to be able to get loot.

The Guild

Many MMORPGs (and WoW is no exception) are designed as such that true mastery of the game can only be achieved by working collaboratively with other players (Galarneau & Zibit *draft*). As a result, players group together and join units called guilds. Guilds offer players a source of information, aid and companionship (Vollenbroek *draft)*. Members share an identity and work closely together in reaching mutual goals. Guild members keep contact through their guild chat channels and share a common tabard. Often guilds form alliances with others guilds. This kind of interaction has lead Steinkuehler to conclude that players progress along "trajectories of participation" (2005:83). My knowledge of the game exploded once I participated in the Outriders guild and later the Aes Sidhe. All of a sudden I had entrance to a wealth of game information that both guilds offered. If I needed help all I did was ask. I would mention where I was located in the game and what I was struggling with. My guild members would offer chat lines of advice and offered their time to help me out. Transcript 1 and 2 above is an example of my guild members taking me to an instance. In the following paragraphs I specify other activities that are reoccurring practices in guilds.

Information Management
For many players their guild valuable source of shared information. Information management is a group activity exercised regularly online via guild chat channels and on the guild website. Information sharing is done through lists of self comprised game information, questions and answers. A member of the guild called *Outriders*, Lowlight posted a series of instance specifications. Figure 6 in the Appendix shows that he included locations, available quests, rewards and links to other websites for more information to his lists. Lowlight has in total of 240 posts on the forum of which more than half are about information he compiled himself.

One information sharing the Outriders participated on is posts of their goals. Once members know each other's game goals, they coordinate their game efforts as much as possible. In the coordination of guild activities, decisions are made with as many members as possible. Outrider Lorriena's goals posted Feb 25, 2007 is as follows[9]:

> There are quite a few goals in mind for Lorriena, some of the bigger ones include:
> - To earn the trust and respect of the dwarves of Ironforge in the hope of finally purchasing one of their rams. (complete)
> - To finish all tasks that have been assigned to her in Hellfire Peninsula.(complete)
> - To visit the other areas within Outlands and progress to a point where she can finally claim her own gryphon.(complete)
> - To continue to train her skill in tailoring until she has mastered as much knowledge of it as possible.
> - To finally weild the beautiful polearm she saw in the Officer's Barracks in Stormwind.
>
> Continued:
>
> - To fully explore the final two areas left, Shadowmoon and Netherstorm.
> - To Return to Nagrand and continue to thin the Ogre population until the Kurenai see fit to sell me one of their fine Talbuks.

[8] A video version I found of this strategy was on Youtube.com at http://www.youtube.com/watch?v=d_m4lVmyDsc (Accessed November 2006). However, many other players have repeated the strategy making their own videos. This video is highly unlikely the original. It was added on August 31, 2006 two years after the initial release of the game.
[9] Source: http:www.fifth-season.co.uk/outriders (Accessed May 2007)

- To travel to Auchindoun and work through the various Tombs, Crypts, and Halls with a willing party of people.

Storytelling and Social Interactions

Players do not only share information that is of direct use to the game, they also share game experiences. Role-play, the enactment of a character and a story, is an integrated part of the game experience in some WoW servers. As Shanuel, I met a character called Anglachel whose player devised a demon plot role-play. This role-play involved three other characters, Rhunin, Archimunde, and Krasuz which I eventually learned were manned by three teenage boys from Sweden. In their role as Anglachel, Rhunin and Archimunde, they contacted me either in chat or in mail wholly in-character (Figure 7 in the Appendix is a copy of one of the letters). Their role-play spun over several weeks and incidentally involved other members of the guild. This story eventually spilled into the guild forum where they posted a short continuation of the story and I answered by writing my side of their story.

Besides story enactments, players also regularly conjoin for guild meetings in which announcements and plans are made in-character (IC) and out-of-character (OOC). The Outriders, for example, meet in a circular tower in an area called the Valley of the Kings. My first meeting was also the most heated one I had ever experienced since the Outriders were at that time in an internal conflict. Members stood in a circle and argued both on the IC and the OOC chat channels. Some senior members were concerned about the guild losing its family character; the guild was growing but contact was shallow since new members were recruited in too little time to get to know them all. Moreover, the senior members voiced out their feelings of neglect since the attention and aid was now going to the new members of mostly lower level characters. One of the angered players Valeus, states:

Abstract of Valeus' post on Aug 2, 2006[10]:

> To be honest, I am not going to pull any punches with post, I am sick and tired of the way things have been now, for way to long.

The conflict leads to members leaving the guild. The meeting took two hours and the guild master posted a summary of the whole meeting on the forum, eventually closing the thread of the heated debate. As a result of the debacle, Lowlight posted a passionate piece about what it means to be an *Outrider*:

An abstract of Lowlight's post on Aug 3, 2006[11]:

> My (OOC) understanding of this: A bunch of friends enjoying the game together. This family-feel was there when I joined and stayed there until we started recruitment.
>
> Now, I dont have a problem with recruiting as such, but the procedures that were put in place were not followed. We MUST stay 'picky' when it comes to recruitment. This is where everything started. Cases like Bladelf, Reptikon, etc. broke our spirits. I might have felt it more, but these fools destroyed the feeling.
>
> What do we need to do? Simple, if we can determine what we want this guild to be. What will the mission be?
>
> Raiding
> Levelling
> Getting rich
> Getting epic items
> Having everything easy
>
> NO!
>
> This is what we're about:
> - Enjoying each other's company

[10] Source: http:www.fifth-season.co.uk/outriders (Accessed May 2007)
[11] See note 11.

- Admiring Lorriena's beauty in a RP session in the Pig 'n Whistle in Stormwind
- Congratulating Shanuel on reaching level 40 and helping her to buy her mount
- Feeling safe when Orlaith is with you in Tanaris, because her fireballs have no mercy
- Enjoying the sweet, sweet Sembla and the wonderful effort she put in to be part of our guild, meetings and general conversations. She sits with a dictionary next to her! She's wonderful and helping her to get her mount was a wonderful feeling (for me)
- Being exited to log on and see your friends again

His enter post is about a guild being *a bunch of friends enjoying the game together* and every line shows that he enjoys the company of other members. His own warm feelings are highlighted by his final line: *being exited to log on and see your friends again*. The player behind Lowlight is not just playing the game, he plays because he joins his friends. The characters he names are not just mere game characters but they are the players behind the character, the ones he values as comrades.

The Theory of Multiple Intelligences

Symbols and Symbol Systems

Underlying Gardner's integration of a biologically based view of intelligence with an anthropological inventory of various cultural roles (1983:302) is the understanding of symbols and changes in symbol systems. For, intellectually validated roles in a socio-cultural elaborate system of things figure in a spoken or written language, numbers in mathematical languages, gestures and movements in dance systems, et cetera (Ibidem:301). With the addition of a plethora of media whose basic utilities draw on iconography, digital exchanges and a host of visual and auditory cues, symbol differentiation and the management of system change become the main skills individuals need to master (1999:2). Though he does not specify it in detail, this is likely the reason for Gardner's "symbolic analyst" and "master of change" as the two main modes in professionalism of the new millennium.

The basis of an intelligence then is perceiving symbols, that is any entity (material or abstract) that can denote or refer to any other entity: words, pictures, diagrams, numbers, and a host of other entities are readily considered as symbols as long as they are used and interpreted as representing some kind of information (Ibidem:301). Change results from individuals turning processed symbols and meaning into symbolic products: "all manner of symbolic entities that individuals create in order to convey a set of meanings and that other individuals imbued in culture are bale to understand, interpret, appreciate, criticize or transform" (Ibidem). Education becomes continual processes whereby individuals are introduced to, and come to master, the principal notational channels of their culture and learning is mastering new systems and using them in a precise and prescribed way (1985:310). For Galarneau and Zibit "the rapid pace of change and the need for continuous cycles of learning puts the ability to learn at the center of today's competencies" (2006: 18). For, understanding the ongoing shifts in media and technology is the primary manner to discern new possibilities once each technology is mastered (Ibidem). This process is never conducted alone. Since a single individual is incapable of mastering all, knowledge and competences are not limited to one individual's thinking, rather, they are shared and assessed in various ways (Ibidem: 23). If the symbol analyst and master of change should be capable of handling information in what seems to be utter chaos, it is because they forge connections with others.

Considering My Application of Multiple Intelligences

While M.I. theorists Gardner, advocate the usefulness of intelligences for vocations, and Galarneau and Zibit argue that online games are practice arena for the 21st century skills My position in this, is that I the 21st century skills are actually trained through addressing multiple intelligences during play. In the conducted research M.I. was used as a categorization and less of a theory about cognition or brain processes. The reason for this is the exclusion of the debate on what cognition or intelligence is and whether cognition or intelligence is modular or holistic. What my work is primarily leaning on, is the reference M.I. makes to competences useful for social roles. However, by using M.I. to explain the learning process in playing games, I actually *do* refer to cognitive processes; playing games does not directly prepare players for the working space, but they prepare their brains to do similar work. Through my work, cognition entails the whole of raw potentials, internalized knowledge, competences and the ability to use these for the creation of new things. Therefore, by stating that learning through play is about addresses intelligences, my work supports the notion that the mind is modular. Yet despite the fractured nature of the notion, M.I. the eight intelligences work together simultaneously, or in other words, with effort of any kind individuals use various intelligences at the same time.

Characteristics of Intelligences

The **Verbal-Linguistic intelligence** exhibits the ability to perceiving "sounds, meanings and structures and styles of language" and to express oneself through speaking and writing effectively (Gardner 1983:83, 98; Silver e.a. 2000). Educators Silver e.a. refer to teachers, religious leaders, politicians, journalists, novelists, copywriters and editors as those who strongly portray this intelligence (2000). Assessment of the verbal-linguistic intelligence in the classroom is through discussions, debates, journal writing, conferences, listening activities and reading (Ibidem).

Individuals with **Logical-Mathematical intelligence** show an inclination for finding patterns, processing numerical data, making calculations, forming and testing hypotheses, understanding causes and effects, objective and quantitative reasoning, using scientific method, deductive and inductive reasoning in handling of objects (Gardner 1983:131). It refers to the capacity of individuals to internalize mental operations thereby operating not only upon objects or mental images or models of these objects, but also upon words, symbols, strings of symbols (like equations) that stand for objects and for actions upon objects (Gardner 1983:132). Vocations that strongly exhibit these intelligences are the accountant, statistician, economist, engineer, scientist, computer programmer.

The **Spatial intelligence** is the ability to perceive a visual or auditory form or an object and to create graphic depictions in science and art (Gardner 1983:174,176,190). It hosts sensitivity to "colors, shapes, visual puzzles, symmetry, lines and images" (Ibidem). This intelligence is important for orienting oneself in various locales (navigation) and is invoked for the recognition of objects and scenes. Individuals with strong spatial intelligence are those who find satisfaction in "representing ideas visually, creating mental images, noticing visual details, drawing and sketching" (Silver e.a. 2000). Vocations in this line are that of the artist, photographer, engineer, decorator, tour guide and ranger (Ibidem). Also the game and website designer exhibit spatial intelligence.

Individuals with strong **Bodily-Kinesthetic intelligence** exercise the capacity to control of one's bodily motions and the capacity to handle objects skillfully (Gardner 1983:206). Thus performing roles, sports, dance or any work that demands physical capacity (Ibidem:233) that requires strength, speed, flexibility, hand-eye coordination and balance exhibit this intelligence. According to Silver e.a. this intelligence is the basis of occupations such as that of the mechanic, surgeon, carpenter, sculptor, mason, dancer, athlete and actor (Silver e.a. 2000). Also, professions such as that of the pilot and soldier come in mind. To assess this intelligence, teachers could insert role-playing, dance, athletic activities, manipulatives, hands-on demonstrations and concept miming in their curricula (Ibidem).

The **Musical intelligence** is about perceiving tone, beat, tempo, melody, pitch and sound (Ibidem). Singing and playing an instrument are the main manifestations of this intelligence. Individuals extinguish the ability to create music (songwriter, composer, musician, and conductor) and analyze music (music critic). To this I add the occupation of the sound engineer. Classroom activities could include playing music, singing, rapping, whistling, clapping, analyzing sounds and music (Ibidem).

The **Interpersonal intelligence** exhibits the ability to notice and respond to people's feelings, personalities, body language, moods and voice (Ibidem). Those who strongly possess this intelligence are those who work with people (administrators, managers, consultants, and teachers) and those who help people identify and overcome problems (therapists, psychologists). Teachers may assess these intelligences via community-involved projects, discussions, cooperative learning, team games, peer tutoring, conferences and social activities (Silver e.a. 2000).

While the previous personal intelligence focuses on social interaction, the **Intrapersonal intelligence** zeroes into a person's ability to assess one's own strengths, weaknesses, goals and desires (Ibidem). Central to this intelligence is setting goals, meditation and reflection, assessing personal abilities and liabilities and monitoring one's own thinking.

Schools may train this intelligence by offering student choice, journal writing, self-evaluation, personal instruction, independent study and giving opportunities to discuss experiences (Ibidem).

The **Naturalist intelligence** exhibits sensitivity to natural objects, plants, animals, naturally occurring patterns and ecological issues. Individuals with this intelligence as strongest intelligence love to identify and classify things and objects (Ibidem). Jobs of that of ecologists, rangers, zoologist, botanist, veterinarian and hunter, scout "demonstrate expertise in the recognition and the classification of the numerous species-the flora and fauna-of his or her environment" (Gardner 1999:48). However, "pattern-recognizing" the underlying tenet of this intelligence is a talent that "artists, poets, social scientists, and the natural scientists" also exhibit (Ibidem).

The final intelligence Gardner himself questions whether it could be seen as a 'full' intelligence since it entails existential issues: the capacity to relate to existential features of the human condition such as the significance of life, the meaning of death and experiences of love or immersion in art (1999:60). Silver e.a. does not list this intelligence in their book though they do refer to ´eight´ intelligences. Ignoring this intelligence is ignoring abilities key to several social roles that are considered extremely valuable in many cultures: art *connoisseurs*, philosophers, religious leaders (prophets, pastors, priests, imams, tribal medicine men, etc) and those involved in the paranormal (such as clairvoyants).

Simple Games offer Rich Experiences

Educators seek to develop curricula needed to assess these skills (Silver e.a. 2000) while remain unaware of the existence of a 'rich' experience already amounting to this (Galarneau & Zibit 2006). Interestingly, two activities Gardner and cohorts mention are games (Moran e.a. 2006). One game involves manipulating a joystick to control a robot that can lift and move a cube to a target space. Gardner states that when played alone, this exhibit primarily assesses bodily-kinesthetic and spatial intelligence; however, when two to four people each control a different joystick, the players must coordinate their play to accomplish the task, employing linguistic, logical-mathematical, and interpersonal intelligences (Ibidem). The other game mentioned has two players sitting opposite each other at a table, with a ping-pong ball in the center. Each player tries to move the ball toward the opponent. Since the exercise requires self-control, they argue that this game taps into intrapersonal intelligence and interpersonal intelligence.

From a contemporary gamer's point of view, these game examples are hardly 'rich' at all. Compared to the high-tech 3D digital games now offered commercially, letting a robot move cubes and a PONG look-a-like are ancient history. Now if M.I. theorists typify these two simple games as 'rich' experiences, then the game practices described in the previous chapter should offer much more.

Assessing Learning in Game Practices

In order for players to be successful in MMORPGs, they must navigate their social milieu, access and share available knowledge and resources and cooperate with friends and strangers (Galarneau & Zibit 2006:39). In this chapter I discuss in detail how elements of game practices mentioned in chapter two addresses several intelligences. This approach was chosen – as supposed to a categorization of one intelligence at a time – because it made visible how one activity requires players to harnesses multiple intelligences in order to perform it. Note that players often perform multiple activities within the same time frame thereby further emphasizing the use of multiple intelligences.

Character Development

Battlegrounds, quests and instances all offer a progressive development in effort and rewards. As they progress, players learn to do things they could not do levels before.

Exploration

Early on the first few levels, players address several intelligences in order to progress in the game. The first thing a player is confronted with when he enters the game is choice making. For example: Do I want to play a human male Paladin for the Alliance faction or do I want to play a Orc female Hunter of the Horde? Making choices involves reflection, one key attribute of intrapersonal intelligence. Also, being offered choices in different character possibilities allows players to understand the presence of types in characters and skills. This triggers the classification of these objects, the internalization of types and eventually the recognition of patterns in images that correspond. At the very start then, the naturalist intelligence is addressed.

Since questing involves identifying elements both in the quests and the surroundings, players again address the naturalist intelligence. Once the player starts recognizing reoccurring patterns in audiovisuals and actions, he also learns to understand cause and effect. Simply put, I understood that if I pressed this key mapped to this attribute I get this specific result. Comprehending causal relationships invokes the logical-mathematical intelligence and starts already at learning to navigate the character and understanding the interface. The combat situation I described shows that players have already understood many causal relationships and turned them into sequence action.

Meanwhile, the spatial intelligence is invoked by audiovisual renditions of space and objects. In this context symbolic arrangement has largely to do with iconography. The interface consists of icons - each with their own meanings and uses - mapped on to the keyboard. The phrases "Picking up things" or "attacking things" refers actually to pressing a certain key or performing a sequence of key and mouse movements.

Also, game symbols refer to older circulated fantasy lore. Elements such as the types of race and class to characters refer previous role-play games, either digital or board games. The symbol meanings are drawn from popular culture thereby connecting game activities to broader cross-medial flows of information.

Finally, spatial intelligence is also invoked through map navigation in way finding. Maps contribute to the realism of the space and cultivate the player's navigational skills. Navigation is in service of quest completion and goals players have that are tied to specific game areas. Since the player deals with various symbolic elements in their play he develops audiovisual representational competence and understanding of symbol differentiation.

Optimization

Mastering areas is about understanding symbol patterns in quests, characters, landscape characteristics and enemy behavior. An indication of this ability is optimization. Designing play for effectivity is a sign of mastery. In order for players to create alternative

strategies, they must have understanding of the underlying principles of game elements and the game system as a whole. Development of alternative play to better play or shorten time spent involves pattern recognition, developing hypotheses, making calculations and testing them; all activities that cultivate the logical-mathematical intelligence.

Mastery is also made visible in levels. Leveling is all about internalizing symbols in all game spaces: knowing what they stand for, how items are used and their use becomes a routine. Written language symbols can be found among other things, in quests descriptions. Reading quests is a way to exercise verbal-linguistic intelligence. Completing quests leads to players recognizing the pattern in them and coordinating the simultaneous completion of quests requires both the naturalist intelligence as the logical reasoning of the logical-mathematical intelligence. Also, since questing is often done in groups and members communicate through chat channels, both the verbal-linguistic and interpersonal intelligences are invoked.

Talent Build and Equipment

Pattern recognition is also a repeated activity in equipment choice. Since each equip able item has its own worth of armor and set of qualities, players take extra care in choosing and searching the right item for their characters. The example of Shanuel's equipment is a simple version of the list of considerations a player has in making stat-based choices. Since players continually seek to acquire items that will enhance their character's powers, they are driven to carefully monitor statistics and effects, by making calculations, forming hypotheses and testing their ideas. If an item does not have the desired effect, they simply try another[12]. It is through steps of hypothesis-test-evaluation that players learn to optimize. In this way, optimization is about handling numerical data and understanding cause and effect of statistical data combinations. Both activities are at the core of the logical-mathematical intelligence.

In making equipment choices, players often they seek guidance from other players especially guild members. This makes optimization a group venture. Furthermore, guild members often donate items and armor to other guild members thereby adding a social aspect to leveling. Group ventures invoke interpersonal intelligence. At the same time, group decision making stimulates reflection which is an attribute of intrapersonal intelligence.

Strategy in Battlegrounds

Another way to invoke logical-mathematical intelligence is through the battleground combat. The strategic planning as exemplified by the paladin, indicates that players have classified objects and understand their meanings, relations to other objects and effects they have in sequence action. While classification invokes the naturalist intelligence, the knowledge of the battle area cultivates spatial reasoning. Logical-mathematical intelligence is addressed as players calculate which combination of equipment and talents builds would bring about damage upon the opponent, and as they draw combat strategies to win the battles. Based on expected results players calculate a plan of action. Strategy planning requires tremendous knowledge of battle locations, characteristics of faction members and opponents, and knowledge of previous battles.

Since strategy and skill is quite deciding, players share combat tactics on guild websites and sites all over the web. Strategy is shared through discussions and community rating systems and via concept maps, graphs, charts and other kinds of audiovisual presentations. Sharing information thus invokes the verbal-linguistic intelligence, the spatial intelligence and the interpersonal intelligence.

[12] Players particularly in role-play realms, also collect different items of equipment that might have little or no statistical advantages but that they find aesthetically appealing. These items are merely collected or used in role-play enactments. This process involves once again classification of objects which is part of the naturalist intelligence, choice making and reflection on one's own needs which is the basis of the intrapersonal intelligence and sensibility to images which is attributed to spatial intelligence.

Good strategy, equipment and talent planning leads to victory and victories lead to rewards. Players exchange battle points and medals for a higher military rank, choice armor, special riding animals and weapons. Blizzard is continually adding special battle gear and weapons. Acquiring those items increases the chances of victory and the status of the player. Both victory and status contributes to a player's sense of accomplishment. Accomplishment is one of the main driving forces behind players continuing to play the game and setting new more difficult goals. Players do not just do the battle ground for one battle; rather, they enter countless battles in order to reach a certain rank or gain enough medals for a certain item.

Progression in the game drives on setting goals which occurs in a cyclical fashion: players set goals, achieve them and set new ones. In the Outriders guild, the player goal lists posted on the forum emphasized this. Lorriena indicated in her post which goals were completed. In this way, the game encourages players to always have a bigger fish to fry.

Gold farming
Another example of players setting high goals is that of the player farming Roccor for gold. His plan is exemplary of the tremendous resourcefulness and creativity that emerges once players recognizes the underlying patterns of a game and in game designer Ralph Koster's words, *groks* them (2005). First, he needs to understand the economic system of the game:

a) Players need in-game financial means to equip character with suitable items, learn skills, travel et cetera;
b) Certain items are valuable because of their scarceness and powerful effects.
c) He understood the limitations of the money making schemes the game design offers and in reaction, sought another way to make more money in less time.

Second, he needs to know how the particular instance works *inside out*: which elites stand where and where Roccor appears on which place suitable for the solo kill. Third, he needs to understand which of his character's abilities have what kind of effect: what combination of which abilities with what specific timing is the most efficient way to defeat Roccor. Through trial and error, practice and repetition the player learned to optimize his gold farming. Ultimately, what the player learned through effective gold farming is analytical thinking, step-by-step action planning.

The documentation he created of his strategic plan is another example of knowledge management that extends the game space from just *in* the game towards other game discourses in mainstream media. By doing so, he exemplifies how players transform the game into a larger environment consisting of many different sorts of media whereby open flows of information is triggered by participants that are both producers as well as consumers. In this case, the player exercised five intelligences: logical-mathematical, naturalist, spatial, verbal-linguistic, interpersonal intelligence and intra personal intelligence.

Instancing
The grouping, joint venture in quest completion, task division and conflict solving in instance runs also invoke all five intelligences. Task division is based on knowledge of class abilities which refers to the naturalist intelligence and navigation in the space refers to spatial reasoning. Fighting mobs in specific areas trigger logical-mathematical intelligence because that requires understanding of sequences and strategic combat planning. Group interactions and conflict solving all exercise the interpersonal intelligence while joint-decision making also triggers the intrapersonal intelligence. Furthermore, sharing player generated instance information and developing software to optimize runs, allows players to exercise all five intelligences simultaneously.

The Guild

The main characteristic of guild activities is that they are social gatherings in which information is naturally shared and game activities with exchange of personal life contribute to personal relationships. In the following chapters I specify how the different forms of guild interaction address and allow players to cultivate several intelligences.

Information Management

Throughout chapter two I stated that the sharing of player generate game information occurred for all many different game aspects. Information is generated and sought after because different areas have different quests, thereby stimulating the emergence of differentiated knowledge bases: while one player has experience of one area, another player with the same character class and race might have experiences of an entirely different area. By sharing his knowledge of specific instances, Lowlight exhibited his ability to process information through experience and display them in an ordered fashion. His written pieces are examples of effective writing which addresses verbal-linguistic intelligence. At the same time, his high number of posts and his continuous aid to other members exhibits his commitment to group involved activities, discussions and cooperative endeavors. All of these activities address and cultivate interpersonal intelligence. Also, Lowlight's actions show that players apparently use logical reasoning in handling data. Other shared information such as game guides, talent build, equipment suggestions and additional game software require a player such as Lowlight to perform comparisons, conduct experiments, using evidence for determining cause and effect relationships and handling numerical data. When players offer quest guides, they show that they have compared their experience with many different kinds of quests. The same goes for advice on talent builds in combination with equipment: players have tried and tested different kinds of talent point combinations with several kinds of equipment over the course of their play. In this way, they take simple cause and effect of "if I press this button I get this result" into a sequence of action and equipment combination. If one type of sword does not give the desired result, players play to get another. This kind of information process is core to the logical-mathematical intelligence.

These activities are performed in a space filled with iconographic data traffic. The interface consists of icons each with their own specific meaning and use. Characters and items they carry are icons. The red color balk on a character mini portrait stands for the hostility of the character. It stands as a warning symbol for players. Audio and images of which the game world exists harbor a host of one-dimensional symbols which the player translates into a three-dimensional fantasy world. Spatial intelligences is assessed when players process all this spatial information invoking the intelligence especially when they turn processed information into their own images, graphs, tables or other graphic elements that they publish on the Internet.

According to M.I. theorists (Gardner 1983; Gardner 1999; Silver e.a. 2000), intrapersonal intelligence is cultivated through journal writing, self-evaluation and personal instruction. The writing ability and self-evaluation is visible when players give advice to other players. Advice is given in chat channels or on the forum but either way it involves the verbal-linguistic intelligence and involves players reflecting on their own findings. Players can not give advice if they had not discovered through their own trial-and-error and hypothesis-test experiences which choices would lead to success. Sharing information, in the case of the goal sharing of the Outriders, involves not only responding to other people's state of being which is the core of interpersonal intelligence, but also reflection on one's actions.

Storytelling

Another way players are confronted with choice is storytelling. Players choose what to write about and how they react on the guild chat and group activities. The boys with the demon role-play enactment discussed among themselves and created an entire story: they thought of the main characters, the plot and the primary places in which the story takes place. In this way, though Gee and Steinkuehler do not mention it in their work,

role-play is a good example of literary practice in the game. It exercises the verbal-linguistic intelligence and the interpersonal intelligence since players collaborate in their role-play efforts. They notice other people's reactions and respond to them.

By taking into account items, places and cause and effect in the plot, the boys show that they have internalized symbol classifications. They have gone past the identification of elements and surroundings, which are core to the naturalist intelligence and have created new products, in this case an experience which was valuable to other players. In this way, their activities count as *intelligence* in Gardner's definition of the word.

Guild Meetings

Another game aspect, which adds to group ventures, are guild meetings. In guild meetings announcements are made, participants have discussions and even heated debates about the on-goings of the guild. During meetings joint decision-making is a reoccurring activity during which players weigh their own needs and consider that of others; two acts that involve the interpersonal and intrapersonal intelligence. Understanding the effect of decisions and making calculations, on which decisions are based, addresses logical-mathematical intelligence. Furthermore, the online space in which guild members meet hold strong conceptual and metaphorical references, both of which lies at the core of spatial intelligence. This was exemplified by the Outriders 'claim' of a certain circular watch tower for their own headquarters. Outriders held meetings in this tower with their characters standing in a circle. The circular setting draws upon the Arthurian myth of knights seated on a round table thereby depicting their equality. Reference to the Arthurian myth adds to the guild's aspirations of heroism: players are warriors all fighting for joint causes. In this case, the circular aspect of the space becomes a symbol, referring to literature and cultural notions of equality and heroism.

Friendships and Companionship

The passionate reactions of the Outriders in their internal conflict show that guild membership is membership of a social circle of friends. The primary reason players join the *Outriders* is because they befriended one member or two and appreciated it so much that they decide to be part of the unit. Members spend so much time with one another and value the guild so much that feelings of anger, disappointment and neglect are real.

In the case of the guild conflict, the debate was all about the expression of feelings: anger, disappointment, passion, and desire. The members addressed the interpersonal intelligence when they noticed and responded to each other's feelings. Self-expression invoked the ability to speak effectively and write effectively, which is the core of verbal-linguistic intelligence. At the same time, the internal conflict also triggered reflection on the on-goings of the guild. Lowlight's passionate post meant that he spent time on considering what it meant to be an Outrider. By doing so he evaluated the guild's goals and history, thereby cultivating his intrapersonal intelligence.

Without them knowing or them wanting to do so, players integrate aspects of themselves in their characters. As a result, the boundary of game and daily life fades. An effect is that players respond to game activities, either IC or OOC, very serious and at times passionately. For many, it is no longer 'just a gam' but logging in becomes similar to entering your favorite pub to have drinks and a relaxed chat with familiars (Steinkuehler 2005).

Conclusions

In this paper, the learning process of playing games specifically in WoW is defined by a discussion of how multiple intelligences are addressed. It was argued that a game such as WoW provides a rich learning environment that stimulates players to train mental and social capacities that are similar to competences applied in the current working space.

The two main functions in this working space according to Gardner are the 'symbol analyst' and 'master of change'. Both terms correspond to Galarneau and Zibit's 21st century skills of forging connections, handling information and thriving in chaos in the sense that both notions refer to the management of flows of symbolic material by individuals working in team settings.

Since symbols are at the very basic components of a game, play is learning to recognize and understand symbols in symbols systems and to yield an array of symbolic produce valued within the cultural setting of which the symbols are part. Dues largely to the dynamic game design, the flow of players, and player optimization, symbols and symbol system are in constant flux. Change is a regular part of play and players are stimulated to regularly set new goals. As a result, the main characteristic of the learning process is that it is a continual process; there is always a bigger fish to fry.

Symbol differentiation and change management is cultivated by the simultaneous use of multiple intelligences. In tuning their character's actions to that of other players and in combining statistical information of talent builds with equipment, players make calculations, handle numerical data and understand cause and effect, thereby invoking the logical-mathematical intelligence. In order to make these calculations players must identify and classify countless objects, characters and movements, which is at the core of the natural intelligence. At the same time, all of these objects are audiovisual renderings that incorporate and refer to concepts and metaphors to other elements of popular culture. Players also address spatial intelligence in their rendering of the game space as *real* space and their understanding of symbols. Part of the symbol system is the use of written en spoken language, the focus of the verbal-linguistic intelligence. Players read quests and chat logs. They reply to other players, post pieces on forum and other players on the internet. They do so in joint action with others; the whole game is based on cooperative play. Players play the game together and by doing so they learn to respond to different people's feelings, needs and personalities. Since reflecting on one's play is the key to future game success, players also rely heavily on intrapersonal intelligence. They are constantly confronted with choice making and the need for optimization. Manifestations of self-evaluation can be found on fora on the net and in the advice players give to one another.

The cultivation of intelligences is a reoccurring activity: every time the player logs in and plays, he is relying on internalized information and processes new information during time spent on play. Although the ultimate cap is difficult to reach and takes time and effort, the game design helps players break it down to smaller goals and tasks towards achievement of higher goals . Processed information and capacities grow cumulatively since existing knowledge and abilities are perpetually used for new goals and constantly tested in new environments. Learning is about processing and creating new strategies, new symbolic products in joint collaboration with others.

The greatest trait of a game like WoW is that game design is all about the facilitation of player self-development through the choices they make. Along the way, players figure out things and learn to do things that they could not do when they first started the game. This is because the game approach players on what they can do instead of what they can not do. It offers immediate feedback and rewards. This loop stimulates players to continue and set new goals. This corresponds to researcher James Gray's and educator Julie Vien's comment on the ideal educational setting: when students experience environments that acknowledge and nurture their particular strengths and interests, they are more likely to feel engaged and satisfied (1994).

Further Research

Add-ons
A game practice I did not discuss is the use of additional game software (add-ons). An add-on is software installed on the computer to and applied when logged in WoW. Unlike the publisher's *patches* set to adjust certain aspects of the game, the majority of add-ons are player-generated (although companies exist that offer professional software add-ons) designed to optimize play. Add-ons may be of the following: for maps, to display different kinds of statistical information, to record images and words, to display the screen in a different way, to monitor Auction house activities, etc. While most add-ons are relatively easy to use, others are quite complex software. *Figure 8* in the Appendix is a screenshot of Outrider Guildmaster Uvah Stone's screen. The top and bottom bars of the screen indicate information that is otherwise not available to players without his add-ons. During battle his screen flashes add-on generated numbers.

The use of add-ons is another manner in which intelligences are addressed. Players who use add-ons must have knowledge of software in order to install in properly onto their game. They possess the ability to effectively search for and through data and software. Once installed, most players master the new software just as easily as they mastered the current game software. If the add-on does not have the desired effect, players might search for another. These players could be valuable employees for companies whose production is based on computer and software control.

Multitasking or Parallel Processing
Another aspect of play I did not mention is the so-called multitasking or in Prensky's words *parallel processing.* It is debated whether these terms are synonyms but they do refer to a similar action: performing several game related and non-game related actions mostly within the same time frame. In all of the game practices I mentioned, players do just that. They monitor actions in the game area, navigate the interface and perform action sequences simultaneously. They contact several players on various chat channels while processing statistical information during battle. Some players eat or talk to individuals standing in the vicinity of their computer screens. In waiting periods some players do laundry, make a sandwich, get a drink, etc.

Multitasking is made possible through internalization of information. Prensky notes the 'back-of-the-mind' action (2002) that is performance in routine leaving another part of the brain to focus on something unknown. Multitasking corresponds with Gardner's notion of the 'master of change'. In essence, game performance is about monitoring change in the symbol system and rapidly responding. Underlying simultaneous action is this apparent drive for effectivity. Understanding the reasons and effects of this drive might contribute to greater knowledge of the learning process.

The Issue of Transfer
Galarneau and Zibit claim that MMORPGs could act as practice arenas for 21st century skills valuable in professional space (2006). Beck and Wade's conclusions concerning the values of employees with gamer backgrounds matching core business values, seem to support this notion. This paper has shown that the skills are cultivated by addressing intelligences. It concludes that playing games trains the brain to perform mental and social capacities which players could draw on in daily life. However, switching performance from one symbolic system to another proves in practice not as easy as Galarneau and Zibit maintain. The player with the character name of Illithen once typed in guild OOC chat: "If we would take what we know from playing games to real life, we would only be sitting in dark rooms in front of computer screens". Apparently, transfer of skills is not an automatic response. Players must first realize what they are capable of and understand how the skills may prove useful other contexts before transfer from game to work context can take place. Educators and trainers could assess this in stimulating gamer students to reflect on their game by taking the intelligences in mind.

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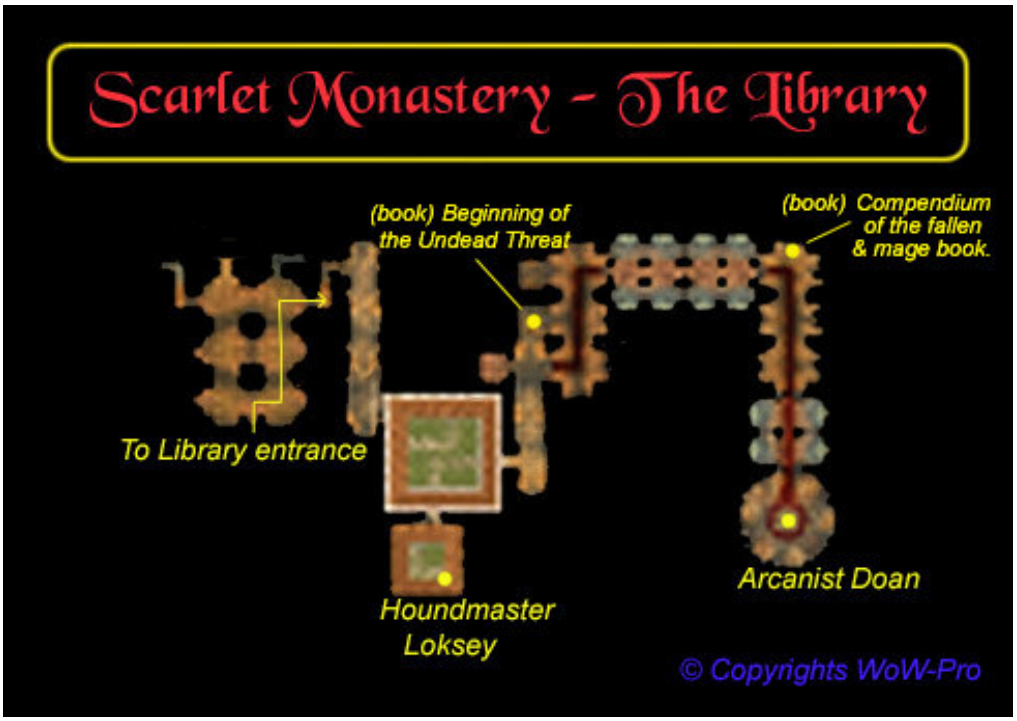
Appendix: Figures and Illustrations

Figure 1: Elwynn Forest

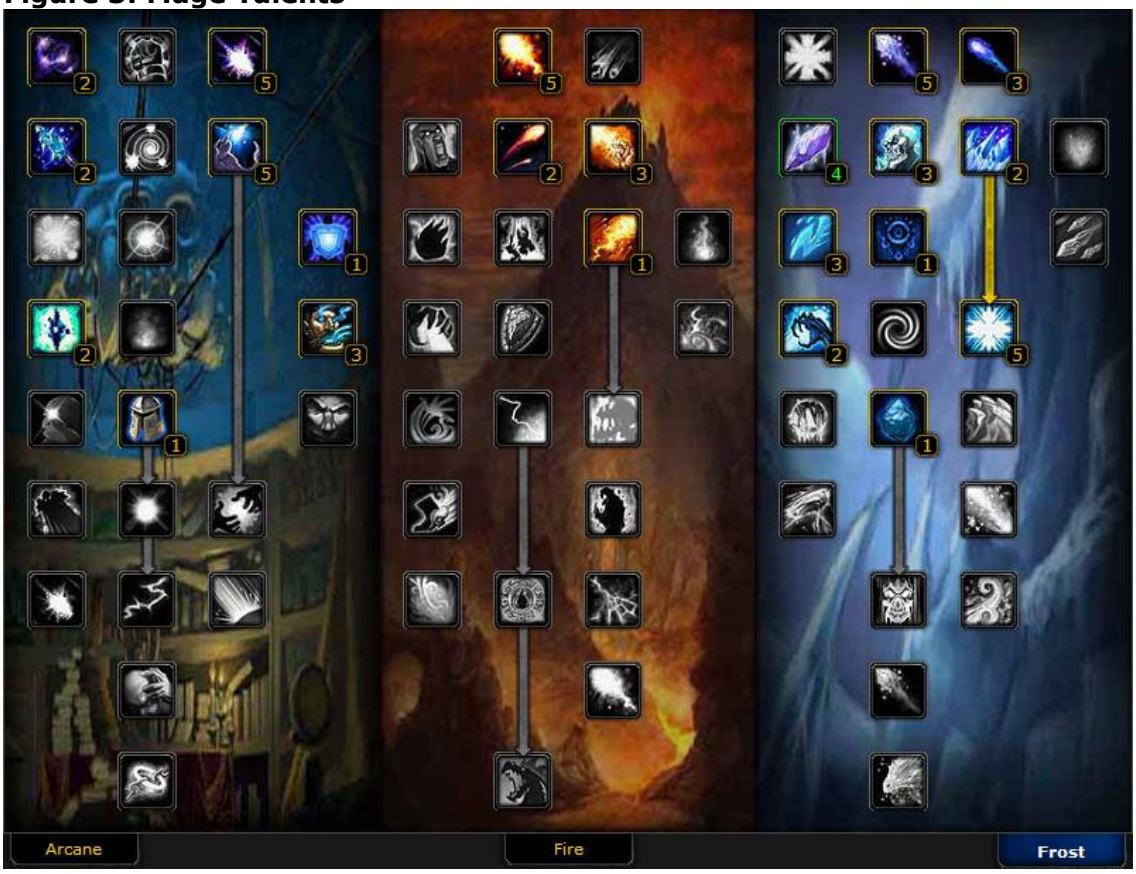
Source: http://wow.allakhazam.com/db/mapset.html

Figure 2: Player generated map of Scarlet Monastary *The Libary*



Source: www.wow-pro.com/guidepics/scarletlibrary.jpg

Figure 3: Mage Talents

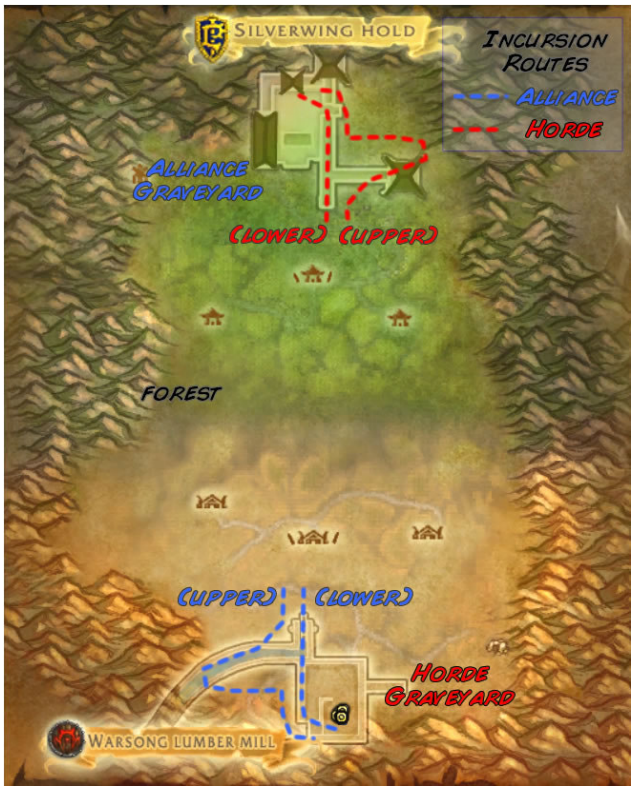


Source:

Figure 4: Shanuel's Equipment

Source: Warcraft Armory. http://armory.wow-europe.com/?#index.xml

Figure 5: Warsong Gulch



Source: http://www.beust.com/pics/warsong-gulch.jpg

Figure 6: Lowlight's post on Instaces Level 30-40

member is offline

My ears aren't 6 inches long for nothing

Joined: Apr 2006
Gender: Male
Posts: 263
Location: London
Karma: 4
[Exalt | Smite]

Location: Tirisful Glades (http://wow.allakhazam.com/db/mapset.html?zone=2021&type=-Basemap&size=Large)

Approach: Meet up in Southshore and run north-east. It's deep within Horde territory and there are a few areas (Certain death - Elite Horde ?? guards) to avoid. The approach to the entrance is fairly easy with the whole group. only 2 or 3 Scarlet Fanatics <elites> standing around. Lots of Horde in this area as well.

Main enemy: Scarlet Fanatics

Level range: 33 - 44 (elites)

Estimated time to complete: 2.5 hours (Group of 5)

Flight point: Hillsbrad Foothills, Southshore (http://wow.allakhazam.com/db/mapset.html?zone=2011&type=-Basemap&size=Large)

Quests:
1. **In the Name of the Light** (http://wow.allakhazam.com/db/quest.html?wquest=1053) obtainable from Raleigh the Devout in Southshore
2. **Mythology of Titans** (http://wow.allakhazam.com/db/quest.html?wquest=1050) obtainable from Librarian Mae Paledust in Ironforge
<<the majority of the quests are aimed at the Horde>>

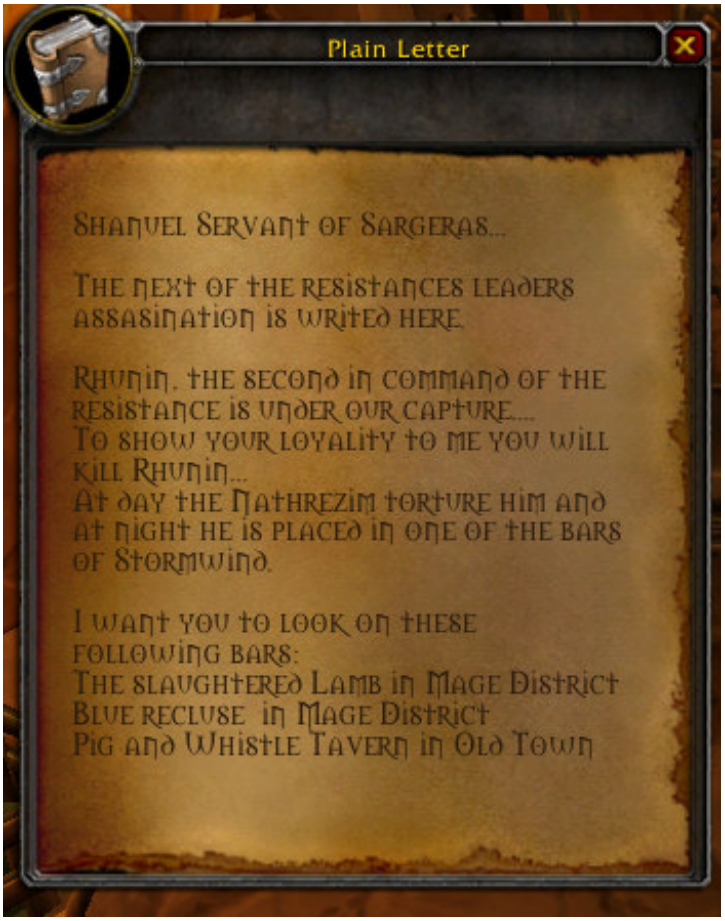
Bosses:
1. **Mograine** (lvl 42 elite <http://wow.allakhazam.com/db/mob.html?wmob=3976>)
2. **Herod** (lvl 40 elite <http://wow.allakhazam.com/db/mob.html?wmob=3975>)
3. **Inquisitor Whitemane** (lvl 42 elite <http://wow.allakhazam.com/db/mob.html?wmob=3977>)
4. **Inquisitor Fairbanks** (lvl 40 elite <http://wow.allakhazam.com/db/mob.html?wmob=4542>)
5. **Doan** (lvl 36 elite <http://wow.allakhazam.com/db/mob.html?wmob=6487>)
6. **Hound Master Loksey** (lvl 34 elite <http://wow.allakhazam.com/db/mob.html?wmob=3974>)
7. **Bloodmage Thalnos** (lvl 34 elite <http://wow.allakhazam.com/db/mob.html?wmob=4543>)

Extras: normal Chest spawns and a few Locked chests

Notes: a few things to keep in mind
- Doan uses -silence- spells, be prepared with healing potions

Source: Outrider Forum http://www.fifth-season.co.uk/outriders

Figure 7: A letter from Archimunde in the Demon Role-play Enactment



Source: Screenshots from personal files

Figure 8: Uvah's Screen with Add-ons

Source: http://www.fifth-season.co.uk/outriders