

## **Scalable Learning: From Simple to Complex in World of Warcraft<sup>1</sup>**

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Since 1996, a new genre of games has emerged. These games, called Massively Multiplayer Online Games, or MMOGs, have created a new context for play within the culture of a large scale social network. World of Warcraft is one of the most recent examples of the genre and exemplifies how these games serve as complex and, most importantly, scalable learning environments.

Unlike traditional video games, World of Warcraft is a fundamentally social space which allows for players to communicate in real time, work together to accomplish tasks, and create synergies among various character classes to achieve results more efficiently. Because it is a networked space, we have also witnessed the creation of external tools: wikis, forums, databases, instructional videos, and game play add-ons that all aid in the process of learning.

Within Warcraft there are at least two ways to think about networks. The first is the immense network which comprises the game world itself, composed of players across a number of nations, with varied and complex relationships to the game world. The second is a smaller set of networks called guilds that are composed of players who usually will share common interests or objectives within the game (group play, shared resources, raiding, etc.) In this analysis, I want to examine both the potential of large scale social networks for scalable learning as well as the means by which smaller networks can filter, manage, generate and productively use information from the larger network to create complex learning environments. In some cases, these smaller networks may also produce a kind of productive friction resulting both from competition among groups or internally from competition among members.

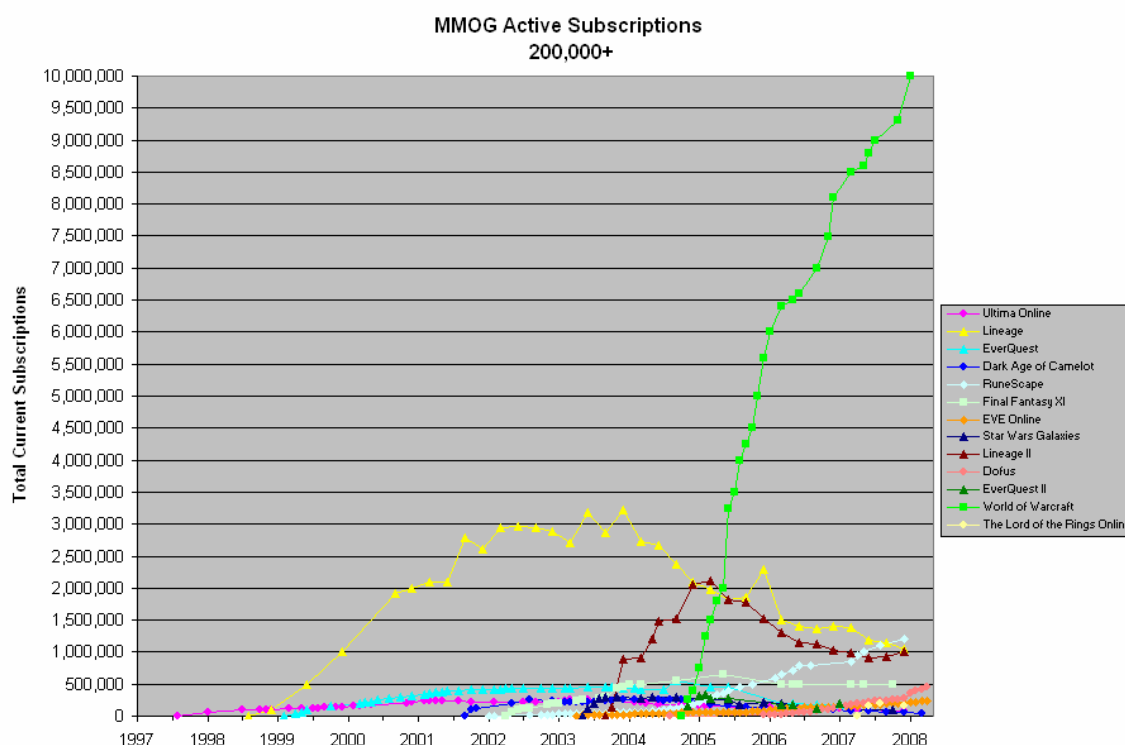
We know from studying gamers that one of the primary drivers for this sort of play is a feeling of progress and achievement.<sup>2</sup> In order for that to occur, the game needs be structured around a set of challenges that require players to learn new skills or adapt old ones to new situations. When games become too repetitive or cease to provide new content players will generally quit and move on to other games which provide new challenges. In that sense, Warcraft has been notable for its longevity. While it had been common for MMOGs in the US to

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<sup>2</sup> See for example, Richard Bartle's "Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs" <http://www.brandeis.edu/pubs/jove/HTML/v1/bartle.html>, last accessed November 10, 2008.

attract 500,000 players, only a handful of games had been able to break the 1 million player mark (the two most notable exceptions, Lineage and Lineage II, were both games that had their largest success in the Korean market). Launched in 2004, Warcraft has grown to more than 10 million players worldwide making it the most successful MMOG of all time. Player continue to join Warcraft, but Blizzard has also been remarkable adept at keeping current players in the game for a significant period of time.



MMOG subscriptions through 2008<sup>3</sup>

There are many potential reasons for the success of Warcraft, but chief among them is that the game provides a rich environment in which players can both learn, but also create their own learning networks to facilitate a rapid, continuous, and scalable system for learning.

### WoW as a Complex Social Network

When a player first enters World of Warcraft they begin at level 1. The goal of the player in this initial environment is to get their character to level 70 (initially level 60 before the expansion in January 2007). The primary way this is achieved is through the process of questing. Quests introduce players at the

<sup>3</sup> MMOG Chart. <http://www.mmogchart.com/Chart1.html>, last accessed November 10, 2008.

earliest levels to the skills and abilities they will need to progress through the game's content. Quests may focus on killing a number of monsters, which teach combat skills, or on delivery of items from one place to another which teach movement and often introduce players to new areas of the game space or on collection which requires attaining a set number of goods or items, often from a "boss" monster. Each quest, when completed, is rewarded with experience points, money (in the form of gold), and, occasionally, equipment. Experience is also awarded for each monster a player kills. Advancement to the next level occurs when a player collects enough experience points. At that point the player visits a trainer, who gives the character new skills, such as spells or specialized attacks to make them more effective in combat or healing.

The core of the game is the progression of the character from level 1 to level 70. Each 10 levels, players are introduced to a new set of abilities or gain a primary skill that will enable or even require them to change their play style. The new skills they acquire at each point require the player to have gained a degree of mastery over earlier skills, but also to make some choices about specialization. As players level, they make choices about what talents they develop and which they forego, referred to as their specification or "spec." Once a player reaches level 70, they are able to begin playing what is called the "end game," a series of advanced encounters that are only accessible to players who have reached the level cap. Because experience points are no longer granted, the focus of the end game is to collect better gear, referred to by gamers as "loot," to advance the characters abilities.

Different kinds of gear are available from different areas of the game and can serve as a marker of status, playtime, or even wealth. There is gear that is only available through player versus player combat, which signifies skill in battlegrounds or arena fights and there is gear that is only available through progression through a series of raid dungeons, which require large groups of highly organized and skilled players to complete. The mostly highly sought after gear is only available from very particular encounters and wearing that gear is a symbol of a player's achievements in the game.

In this sense, gear in *WoW* is both functional (better gear allows you to perform at higher levels) and a marker of status within the world (is allows you to publicly demonstrate your success).

In addition to player versus player combat and high end raiding, there are a wealth of play styles that make up the bulk of players' activities in *WoW*, which include socializing, engaging in professions such as alchemy and enchanting, playing the Auction House to buy and sell goods and items within in the *WoW* economy, leveling other characters (referred to as "alts"), collecting resources and materials in the world (called "farming"), and establishing reputations with various in world factions to gain access to items, resources, or rewards. Blizzard

has also created a series of highly lucrative “daily quests” which can be done once per day to earn money and item rewards.

The goals of *WoW* players are probably as numerous as the players themselves. But within this complicated social matrix, it is incredibly important for players to stay informed about what is happening within the complex social networks that make up the world.

### **WoW as Constantly Evolving Network**

The *World of Warcraft* (like all MMOGs) is different from traditional video games in one very important respect: the game is constantly evolving. Part of that evolution has to do with content that the developers add on a continuing basis, but the most significant part of the game’s evolution comes from the player base itself. Games like *WoW* evolve as a direct result of the actions of the players within the world. Players discover or create new uses for items, uncover synergies among skills or player talents, and continually test new styles of play and techniques to be more successful in overcoming the challenges of the game. As a result, nothing about the world remains static and knowledge is being produced constantly. That new knowledge literally remakes the world, rendering some things vital and other things obsolete. Accordingly, players are faced with a serious set of problems. How does one know what information is useful and relevant in a constantly changing world?

Within the game itself, there are relatively few markers that signify change. Instead, players are likely to find that techniques or approaches to problems may suddenly no longer be viable in the game. A technique may suddenly stop working or an item may be radically altered in its ability or interactions by the developers (called a “nerf”). In other cases, players may simply find better or different ways of doing things which render old play styles obsolete or counter advantages that items or skills provided, especially in areas where players compete for resources. In some cases, skills or items may cease to function at all, in others, old ways of performing may be replaced by significantly better approaches, rendering those old activities obsolete.

To help remedy the constant flux of information, players have established a battery of online tools, databases, calculators, message forums and tutorials to help guide players. One of the most striking results has been a transformation in how players talk about knowledge. When players make inquiries in game about something they need to know, other players typically respond by directing them to a resource site, rather than providing the information itself.

In one gaming session, a player asked in chat “Where do I find Baelmon the Hound-Master?” (a monster that needed to be killed to complete a quest chain in an area called Blade’s Edge). The response from a fellow player was “Thottbot.” The answer to the question was not information about Baelmon, but *where to find*

*the information.* Such an answer accomplishes three things. First, it introduces the person asking the question to a central part of the *WoW* knowledge economy by letting them know about a particularly useful external resource. Second, it enculturates him or her into a particular practice of the game world, using external references to expedite play and learn techniques and nuances of their character and class. Third, it acknowledges that information is not stable. The person responding may have done the quest some time ago, so if they were to simply pass what they knew along it could easily be obsolete or even inaccurate. Thottbot is a hedge against change, because it is likely to have the most up to date information, particularly about lower level quests that may have changed over time.<sup>4</sup>

Thottbot<sup>5</sup> is a player created database that catalogues quests in the game and provides information about them for players, including coordinates for finding items, monsters, and rewards. Players are also able to add comments to the quest to provide tips or techniques about how to best accomplish the quest. Tips that players find particularly useful or insightful are rated by players and those that receive the highest ratings are highlighted.

Because the comments are posted chronologically, each page constitutes an historical record of the changes to different quests and techniques as well as a catalog of ways that players have innovated unique solutions to complex problems. Techniques that may be obsolete for one encounter may find new relevance in a different encounter and as a result, much of what happens in Thottbot entries (as well as on a similar site Wowhead.com) serves as a resource for players to think differently about how they play their character or class within the game.

As important, however is the fact that those responses (and the subsequent embrace of the actions in the posts) begin to change the game and reshape it through the behaviors of the players. Thottbot has become a way to not only catalog information about the world, but to literally reshape it by introducing practices in response to the challenges the game presents.

Other resources throughout the game world include wikis (of which there are half a dozen prominent ones for *WoW*) and message forums. One example would be the official forums for *World of Warcraft* which has tens of millions of messages spread across 30 general forums and 226 independent realm forums (and that is only for the US, both China and Europe have an equal number of forums as well).

In this sense, *WoW* is not significantly different from almost any large scale peer to peer network that exists in a state of rapid change and development and

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<sup>4</sup> The player comment also demonstrates a shared community value, that players are expected to engage in research before asking questions.

<sup>5</sup> <http://www.thottbot.com>, last accessed November 10, 2008.

produces a huge amount of information through a large number of peer connections. Where *WoW* differs is in how the player community is able to organize itself in a way that allows an incredibly flexible and responsive information economy to be utilized effectively in response to change.

### **From the Complex to the Simple**

One of the principle mechanisms that players use to manage the complexities of the world is guilds. Guilds are collections of players who come together around a set of common interests, common practices or common goals. Guilds have various hierarchies and designs, but most are led by a Guild Master (or GM) who is responsible for determining what the overall outlook or mission of the guild will be. Below that, depending on what activities are important to the guild, you may have a Raid Leader, Class Leaders, Officers, and even players who organize social events or manage guild resources.

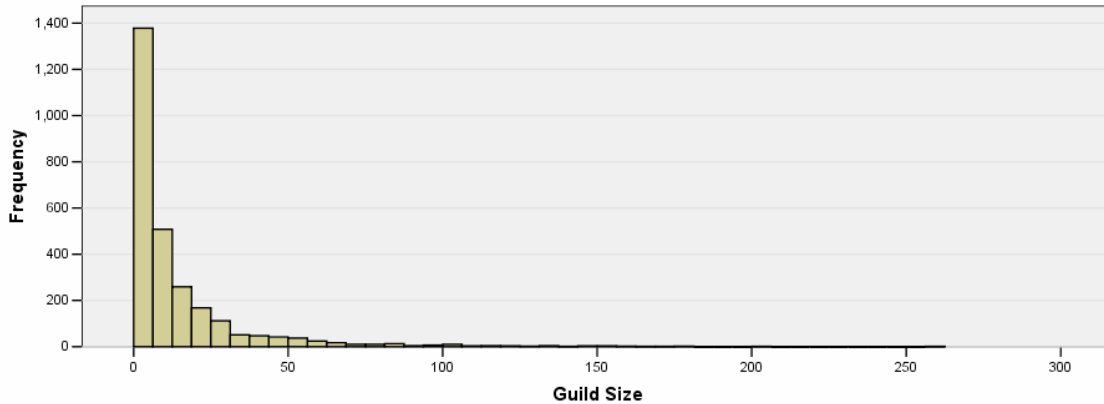
As of this writing, there are roughly 87,000 guilds worldwide that participate in raiding (and likely tens of thousands more than do not). Besides offering a networked chat channel, a common bank vault (for both money and items), and a guild “tag” which identifies you as a member, guild provide very little functionality to the game *per se*. Yet, at the same time, they have become the single most important aspect of the game in terms of organization and learning, primarily because of the ways in which they organize themselves outside the confines of the game.

Guilds range in size from a handful of players in smaller guilds whose function is primarily social to several hundred players in high end raiding guilds. Guild activity is extremely popular, with 90% of characters over level 40 are affiliated with guilds.<sup>6</sup> Guild size appears to also be correlated to activity, with small guilds making up the bulk of guild membership and very large guilds (necessary for high-end raiding progression) being sparse.<sup>7</sup> The average size for guilds is roughly 15 members, with roughly 1% being composed of more than 100 players.

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<sup>6</sup> [http://blogs.parc.com/playon/archives/data/wow\\_data/guilds/index.html](http://blogs.parc.com/playon/archives/data/wow_data/guilds/index.html)

<sup>7</sup> According to the PlayOn numbers: “17.5% of characters were observed to be in a guild that no one else was observed to be in during the one week period - i.e., a one-person guild. The average guild size was 14.5 (16.8 if one-person guilds are excluded). The median was 6 (9 if one-person guilds are excluded). The largest observed guild had 257 members. The lower quartile is 2. The upper quartile is 16. The 90th percentile was 35. The 95th percentile was 54. The 99th percentile was 110.”



Many guilds (especially larger guilds) create microcosms of the larger WoW community, developing their own message forums, wikis, and specialized tools for guild organization and scheduling. In doing so, they perform an essential function, filtering information from the outside information economy into the guild as it relates to the common interests of guild members. Guild members are then expected to contribute to guild forums and wikis by seeking out and posting information that other guild members may find relevant.

As a result, the players in WoW produce a large number of very small communities of interest who import relevant information into the guild. Doing so has three primary functions (each of which is somewhat dependent on guild size and purpose):

#### *Discovering and Refactoring the Medium of Play*

The primary reason guilds share information is to improve play around specific challenges, goals, or functions that the guild is focused on. When a high end raiding guild is focused on defeating a new monster (a process which may take several months and hundreds of hours of raiding to accomplish), players will scout out all available information to determine how others have succeeded, what strategies were successful, what recent changes in the game may make the encounter easier or harder, and so on. Similarly, a guild with no raiding interest at all, may keep tabs on market conditions in the Auction House, noting what items may sell well in the future.

Players who spend a lot of time “farming” can benefit tremendously from knowing what happens in high end raids, for example. Even though they may never raid, it is important for a guild that spends time collecting materials in the world in order to sell them that a large raiding guild will be requiring large amounts of “Primal Shadows” to craft gear for a new series of encounters. So while the raiding guild is focused on developing strategies for fighting the new monster, the farming guild is focused on strategies for more effective collection of Primal Shadow materials.

### *Hypothesizing, Experimenting, and Testing*

Guilds are also a primary site for innovation within the game world itself. On an almost continuous basis, guilds are taking in the knowledge they find relevant and engaging in empirical, often highly contextualized, hypothesis testing. This make take the form of using knowledge in new ways, testing the accuracy of claims made outside the guild, or reassembling other players' ideas in novel ways. In that sense, guilds serve as test beds for ideas about how to improve play, allowing general ideas about characters, classes, skills and techniques to be widely disseminated and tested within a variety of contexts and for different purposes.

### Disseminating their Findings with "Bragging Rights"

While smaller guilds are primarily consumers and testers of game information, the larger guilds tend to focus equally on disseminating information about game play. Perhaps the most interesting example in a US guild named "Elitist Jerks." The guild website has a public forum section dedicated to public discussion of what has become known as "theorycraft," the general discussion of gameplay mechanics and empirical testing of different design elements.

The rules for posting are, by internet standards, strict. Players can be banned for using poor grammar, failing to capitalize at the beginning of sentences, or posting frivolous messages. As a result, the forums are considered some of the best in the world for reliable information (one class post, for example has more than 6000 substantive posts and have been viewed more than a million times). Contributors have also constructed spreadsheets to measure class abilities and run empirical tests on various abilities and report them back complete with data sets.

The three taken together (again most significantly occurring in larger raiding guilds) also have the net effect of causing significant changes in the world itself. They also take a vast universe of information generated from an enormous user base and filter it through highly specialized and interested groups, who are then able to experiment and test new knowledge and disseminate it back into the larger community.

### **Tool Construction**

Players in WoW have a secondary mechanism to import what they learn about the game back into the game itself through the construction of tools. These tools, which can be integrated into the game itself through the user interface often represent the encoding of new ideas or techniques. It is common for players to find key pieces of information (such as particular timing in encounters with monsters) and then create visual dashboard items to alert player about when to take particular actions or when to move or expect particular effects to occur.

These “Add Ons” are able to take knowledge generated by guilds and communities and formalize them in a way which allows them to be visually encoded back into the game (as a series of timers and warning messages as illustrated in the example shown above).

Perhaps more significant is the evolution of new tools which allow players to record, monitor and analyze their play. The most interesting example may be the creation of *WoW Web Stats*, a program which creates a combat log from raid encounters, parses it, converts it to XML and posts the results on a website for analysis. Players felt that the tools in WoW were inadequate for assessing performance, so they built a new tool and created new metrics for analysis.

This analysis constitutes what many would consider a 360 degree performance review as it allows the raid leader to assess every player, but also provides the same data on the raid leader as well. The data is parsed in such a way that it allows players not only to see their individual performance, but also to measure it in comparison with others and to identify synergies (or lack thereof) and dependencies that occur during the encounter.

Assessing the data makes it impossible to understand any single player’s performance outside the context of the group and the group’s interdependencies.

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What this example shows is the amount of time this character spent casting various spells, how much damage they took in and how much healing they required. In addition, it shows their overall contributions to both the team and how much of their time was spent actively engaging in game play.

Such tools as become the means by which players and guilds can work to evaluate themselves and improve, but it also represents the data which they are able to use to make decisions about how to improve performance.

### Filtering, Feedback, and Broadcast Loops: How Learning Scales

There are various cycles of learning that occur within the Warcraft community. If we divide the player base into three groups: non-raiders (the majority of players, probably upwards of 90%), casual raiders, and high end raiders, we can begin to understand how knowledge begins to circulate within the community.


For the most part (and there are many exceptions) the economy of knowledge is tied to progression. That means once a guild accomplishes a task in the game, the knowledge they accumulated to accomplish that task no longer has value to them in a proprietary sense. In fact, a number of guilds have made their reputation not only by progressing through content quickly, but by sharing or even demonstrating how they did so.

The cycle of learning in WoW then is a process of “looping” whereby information cycles through a three stage process, where scalable learning gains its fullest expression. The WoW knowledge economy has two central features that define it:

1. At the base the network is too large to be managed meaningfully by any single person or group
2. Sharing information has limited risk and has high returns for reputation and status.

The player base at large (n=10 million) acts as an incubator for new ideas and as receivers and adopters of new information. That user base shares and tests information constantly in a variety of forums (wikis, databases, message forums, in game chat). One example would be the official forums for *World of Warcraft* described previously.

Here is a small sample of a player on the Warlock forums testing the mana efficiency of a spell:



**Anathia**  
< Scrub Nubs >  
Destromath

**0. Warlock's new mana efficiency is terrible!** 07/19/2008 08:37:28 AM PDT

I understand that Blizzard still clings to the dream that every caster class should depend on spirit but it's ridiculous the lengths they seem to be going.

First off, our main nuke spell is being made much more inefficient. Let's compare:

Shadow Bolt 10 (Highest rank in Pre-BC)  
Average damage: 510  
Mana cost: 380  
Damage per cost: 1.34

Shadow Bolt 11 (Highest rank in BC)  
Average damage: 572  
Mana cost: 420  
Damage per cost: 1.36

Shadow Bolt12  
Average damage: 630  
Mana cost: 600  
Damage per cost: 1.05

Shadow Bolt 13 (Highest rank in Wrath)  
Average damage: 730  
Mana cost: 715  
Damage per cost: 1.02

Shadow Bolt's drop off in efficiency: 24%

Now, here's Curse of Agony:

Curse of Agony 7 (Highest BC)  
Damage: 1356  
Mana cost: 256  
Damage per cost: 5.12

Curse of Agony 9 (Highest rank in Wrath)  
Damage: 1740  
Mana cost: 470  
Damage per cost: 3.70

Curse of Agony's drop off in efficiency: 28%

Second, for most of their mana, Warlocks rely on their health. However, Warlock health is being nerfed as well, in the expansion.

Demonic Embrace:  
Increases your total Stamina by 15% but reduces your total Spirit by 5%.

New Demonic Embrace:  
Increases your total Stamina by 3% of your Spirit.

In this example, a player has put forth an argument based on testing a particular skill. These kinds of posts appear in a wide variety of venues and with varying degrees of credibility and testing.

Here, guilds play a critical role in taking that vast amount of information and filtering it into the guild. One of the central functions of a guild and one of the primary uses of its forums is to have players funnel information from the vast outside network into the guild, usually around a specific problem or set of problems. In that sense, guilds (and often a handful of players within the guild) have a critical role in organizing information resources to address the guild's needs or goals at a particular time.

This example shows how a guild class leader might assemble information from a variety of sources to help filter and improve the guild:

Author

Kanab


WoW Teamleads Troll


Karma: +5/-0

[applaud] [smite]

Offline

Posts: 603





Topic: So you want to be a GLA Warlock.... (Read 187 times)

So you want to be a GLA Warlock....

on: June 18, 2008, 03:47:21 PM »

QUOTE

After looking at the last few WWS sheets posted by Cadin and running a KZ with one of the new locks I think I had better put up something to get the locks on track. Read it and heed it....

- 0/21/40 - OMGDIPS!!!** Yes every warlock knows that this is the top DPS spec IF your gear supports it. That means you need to be pushing 200 Hit Rating and you damn sure better be looking at 25-30% crit rate BEFORE you add the 5% for destruction. IF you don't have the stats then you will get better numbers from affliction or demonology (This spec requires a brain... don't try if you think SB spam is complicated). Fire spec 0/21/40 on paper is better than SB spam, but in reality DPS is higher with SB spam spec and your contribution to overall raid DPS is much better as SB. I use SP to get agro when tanking so the 1 pt there is probably better than putting in emberstorm... doesn't really matter.  
<http://www.wowhead.com/?talent=IZdxczIbZEx0trozhhi>
- Gear** - I have gone thru the armory's for all the new locks... wow is really all I can say. This might be a newflash but Blizz has made it pretty easy to get decent gear and not SUCK. I have compiled a list of EASY to get gear that might help.... Also if you have an item equipped with an empty socket... you're an idiot... if you have 2 then you should uninstall the game and try Hello Kitty Online.
 

**Crafted items**  
 Belt of Blasting - Get 2 Nether Vortex's for 30 Badges and get a crafter to make it.  
 Boots of Blasting - If you are a tailor (+18 Spell Hit, +25 Spell Crit, +39 Spell Damage)

**Badge items**  
 Tormented Demonsoul Robes - 100 Badges (+50 Crit, +62 Spell Damage)  
 Shroud of the Lore`nial - 100 Badges (+29 Spell hit, +61 Spell Damage)  
 Corrupted Soulcloth Pantaloon - 100 Badges (+43 Spell Crit, +61 Spell Damage)  
 Legwraps of Sweltering Flame - 100 Badges (+25 Spell Hit, +62 Spell Damage)  
 Orb of the Soul-Eater - 25 Badges (+51 Shadow Damage)  
 Fused Nethergon Band - 60 Badges (+28 Spell Hit, +35 Spell Damage) <- Very good item  
 Shawl of Shifting Probabilities - 25 Badges (+22 Spell Crit, +21 Spell Damage) <- Good value

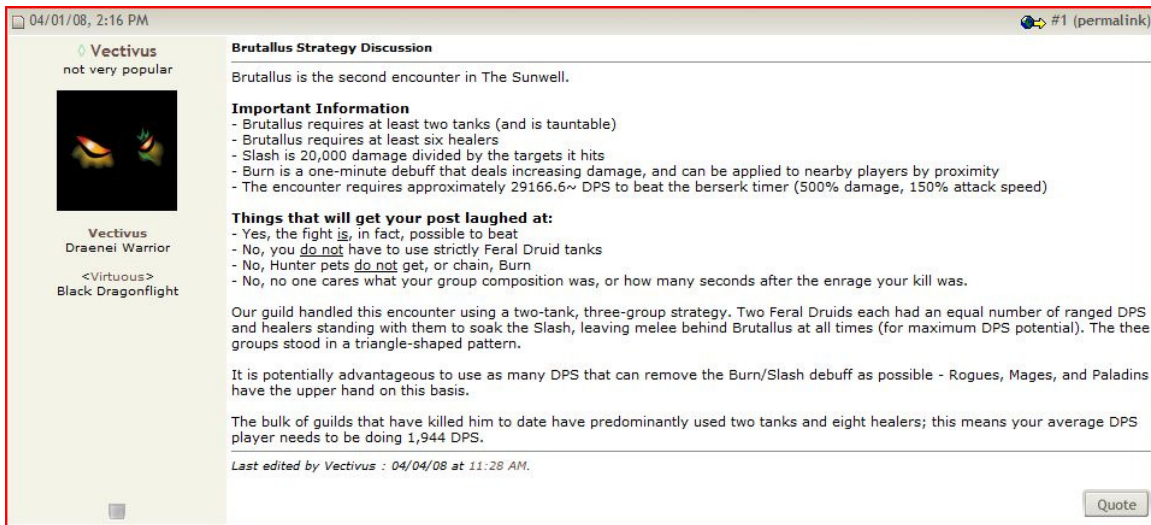
**PvP Items**  
 Brutal Gladiator's Felweave Handguards - (+26 Spell Crit, +44 Spell Damage)  
 Vindicator's Silk Cuffs - (+15 Spell Crit, +27 Spell Damage)

These are easy to get items.... Spend a couple hours doing PVP in a week and you can get some good gear. Run heroics when not raiding... I have over 300 badges in the bank, and that is just from raiding.
- Ok so you got some gear and a better Spec...** What to do in MH. Hyjal is a warlock's dream come true. That said if you get greedy you will be spending a lot of time running back to your corpse. What works best is to get in range of the pally tank and tab target every mob in his pack... to each apply CoS... keep spamming tab until you can't find a mob without CoS... this should take some time, but that is time that the pally tank is building agro on those mobs. If you are a greedy bastard you can put CoA on all the trash as well... maybe take turns with the other locks. Once done proceed to SoC spam, using tab to change targets in that pack all the time. If one breaks lose to go kill a DPS person... put your SoC into that one for awhile till the tank gets threat back on it... The seed itself doesn't cause too much threat and the explosion doesn't hurt the source mob.... It is if it is loose and your SoC explosions are hitting it as soon as the mage ice blocks.. or hunter FDs.. guess where it is going. An affliction lock can put out just as much DPS as a Destro lock when dealing with this trash.
- Bosses** - The only curses that should be used on a boss are CoS, CoE, CoR, and CoW in that order PERIOD. Each lock in the raid should have 1 assigned curse for the whole raid on every boss. Toss up your curse first and make sure it stays up. After that... affliction locks, enjoy your DoTs... destro locks toss a corruption and an immolate to give the tank some time to build threat... then have at the SB spam.
- Enchants and Gems** - These should go without saying but... +spell hit (up to cap 203), +spell crit, + spell damage.... Do them in that order.... I have played with haste quite a bit and unless you have a bunch of Sunwell loot it really doesn't make enough difference.

Those multiple sources of input take an unmanageable network and filter it down to smaller set of inputs which can be analyzed and put into practice by the guild. In doing so, guilds perform their own testing and experimentation refining that information and developing practices around it. Higher end guilds, which tend to be larger and more experienced, have a much greater need for detailed information as small or incremental changes usually are the difference between success and failure with high end content.

The second set of loops occurs among guilds themselves, where guild leaders on servers (and occasionally across servers) share and further refine information about strategies and game techniques. Conversations about strategy and gear, and particularly hints and tips from guilds that are further along in progression, provide additional information that gets filtered back into the guild, particularly among high end guild leaders.

Here is a brief introduction to a much longer message forum thread discussing strategy for a new boss:



Of particular note is that this post is not only providing information, it is setting conditions for contributing to the thread.

Information also tends to filter from high end guilds to casual guilds and from casual guilds to lower end guilds. The highest end guilds provide information that is useful for casual guilds to progress. Casual guilds provide tips and information to prepare new players to begin raiding. At the same time, newer players and casual raiding guilds, particularly because of their large numbers, can also provide valuable information to larger, high end guilds. It is extremely common for players outside of the guild structure to test and report findings in message forums either validating or disputing information coming from well known guild sources.

Finally, once a guild has mastered content, that information gets cycled back into the community at large. The tips that high end guilds use to navigate complex fights and bosses also have utility to players who are not raiding (in much the same way we can think of NASA missions spinning off technologies that can be used in the home). The process often referred to as “theory crafting” is an essential component to high end raiding, but also teaches non-raiding players the deeper mechanics of their character classes, gear, and skills.

The example below illustrates the integration of highly valuable class tips for warlocks who want to focus on a skill tree called Affliction. The guide provides tips on play style, gear, and how to choose skills to maximize the player’s value to a group or raid.

We can see, for example, the ways in which two guilds competing for progression on a server might deviate from well known techniques to try to succeed in completing a raid encounter. Because they have access to most of the same information, each guild will have a pretty good idea of how the other guilds will approach the encounter. In order to do it faster, guilds have to

innovate and, once they succeed, share those innovations in order to get credit for them.

10/12/07, 4:21 AM

#1 (permalink)

Arelenda

Don Flamenco

Arelenda

Human Warlock

<Sora>

Aszune (EU)

**[Warlock] PVE Raiding Compendium**

If you are only interested in what a particular talent build or piece of loot does for you, I recommend using the spreadsheet by Leulier, linked at the bottom.

**Talent choices**

Warlocks have many great talents, and there is lots of room for customizing your spec. Consequently there are many viable hybrid builds, each requiring a different play style. To keep this guide short, I'll focus on the three main tiers and their most sensible pve raid builds. Even within those there are a lot of variations possible.

**Affliction**

Affliction focuses on dots. Typical demon choice for this style is imp. Even though your crit chance is lower than that of destruction warlocks, you'll want to have improved shadow bolt.

**Examples**

classic Spec  
Raid support with UA  
Raid support with Ruin

As mentioned before, there is plenty of flexibility in the early parts of the Affliction tree.

**Play style**

- Optimal strategy is to keep Unstable Affliction, Corruption, Siphon Life and a curse active on your target. When all your dots are up you will be using that time to throw Shadow Bolts or Dark Pact/Life tap. Good timing is important: never refresh a dot effect before it has run its full duration, but minimize the time between the last tic and reapplying. For example, you want to start casting Unstable Affliction before the last tic hits, so that the last tic happens during the cast and UA is reapplied almost immediately after.
- You probably want to use an addon like DoTimer | World of Warcraft @ Curse.com or Forte Gaming / Forte Warlock Addon for this. There is no fixed rotation since your dots have different durations.
- Get your imp buffed, blessing of wisdom helps a lot for his mana regeneration, which you can siphon off with dark pact. Imps can only be buffed when they are not phase shifted.
- Despite Drain Life getting a lot of benefits, Shadow Bolts will always outdamage it. Drain life is the most mana efficient spell since you're effectively gaining life/mana.

**Strong and weak points**

- More mana efficient and self sufficient than other trees.
- Ideal in situations when two or more mobs are being tanked, as you can dot them all.
- This spec provides less burst damage, and scales worse with gear than other specs.
- Bloodpact can be nice to boost party hit points, especially on fights where a tank can get flattened fast, or where there is lots of aoe damage on the raid.
- Can come with Malediction, which scales with the amount of Shadow/Arcane users in the raid. It adds 2.7% over the untalented CoS. (113% talented, 110% untalented,  $1.13/1.1 = 102.73\%$ )
- Can come with Shadow Embrace, which reduces the melee damage on the tank by 5%. This effect is multiplicative: if your tank would take a 1000 hit it'll be 950 with SE.
- Due to the high amount of raid benefits (Blood Pact, Malediction, Shadow Embrace), having at least one affliction warlock in a raid is recommended.
- This build uses a lot of debuff slots. As soon as the cap of 40 debuffs on a mob is reached, the oldest ones will start falling off. For this reason, too many affliction warlocks in a raid will hamper one another. If you're having trouble with debuffs being pushed off, you can use a lower rank of CoS (see Curses, below), have all warlocks use only the optimal dots, or get Warlocks to respect to another tree. (also, see the Debuff count addon linked at the bottom of this post)
- Most affliction warlocks use Suppression to reach the hit cap early on, and spec out of it when they obtain more +hit on their gear.

**Variants**

Affliction builds have access to several talents that can support the raid: Improved blood pact, Malediction, and Shadow Embrace. Most variants are therefore tradeoffs between these and talents that will increase the Warlock's personal dps.

Optimally just one warlock in the raid should have them. The UA support build is recommended at starting levels, with the Ruin support build likely to perform a bit better at end level raiding, due to high amounts of hit and crit rating on pieces at that level.

30/21/10 keeps popping up as an alternative build. It's been harshly criticised every time it was proposed. See post #78 and beyond in this thread for details.

**Basic gear choices** (see below)

Spell hit (until capped with suppression) > Spell damage > Spell haste & Crit

After obtaining 76 hit rating with 5/5 Suppression, warlock dots are hit capped. Further extra hit rating only affects Shadow Bolts/Immolate, and is worth less than spell damage on a point-for-point basis.

Because the number of high end guilds disseminating this knowledge is small (maybe a few hundred web sites, compared to tens of thousands for the general community), it is accessible and manageable for the entire user base. As a result, small high end raiding guilds are able to make dramatic improvements in the overall player base quickly, producing the next iteration, which feeds back into the guild loop. The next generation of players are then better prepared to begin testing and experimenting with content and providing a new basis for information to feed the cycle. Because the knowledge that is created is also

likely to change and evolve along with the environment, the knowledge economy itself needs to be able to account for change. As a result, learning in WoW tends to put more emphasis on the flow of knowledge than it does on treating any particular answer or outcome as definitive.

## Conclusions

Throughout these examples, we can begin to see some of the unique properties of scalable learning *World of Warcraft*. In particular, we can understand how large scale networks of high value can be utilized and leveraged by smaller communities and technological infrastructures to harness their power. We can also see how these smaller networks utilize scalable learning environments to succeed at team building, organization, and talent development within complex and often rapidly changing environments.

What *World of Warcraft* demonstrates is a complex social network that is constantly evolving itself, constantly reforming itself, and constantly pruning old useless or outdated information. Throughout the world, we find an enormous number of tiny networked communities of interest and practice that are continually redefining the space and meaning of their own activities, hypothesizing, experimenting, and testing, and then disseminating their findings back into the world.

In order to instantiate these ideas in concrete ways, players are crafting their own instruments to better understand and reflect on their experiences and “bootstrap” a new form of learning. Perhaps most important, it is a model that leverages an enormous amount of information, within an immense peer to peer network, and is able to filter, process, and meaningfully utilize that network for accelerate learning.

What is at stake in this notion is a different sense of how learning environments might work in large scale social networks, providing an alternative to ideas such as crowd-sourcing or collective intelligence. What *World of Warcraft* demonstrates is that large scale peer to peer networks are not only good at finding answers to complex problems, they can also be generative learning environments capable of shaping and reshaping the context and content of learning. As a result, learning environments like the one created around Warcraft, not only are useful for finding answers, they also are spaces that can generate new and relevant question within a context of rapid and continuous change.