

The Structure of Play: An Exploration of the Instructional Design of *Rift*

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Abstract: This paper uncovers and explores the specific instructional approaches that role-playing games (RPGs) use to engage and teach their players. The goal of this research was to go beyond the theoretical understandings of gaming as rhetorical, social, and cultural experience and instead identify a practical, applications-based approach to understanding games as instructional design artifacts. Through in-depth case study research, I ultimately unearthed a set of heuristics that can be used in future studies about games and learning including how to study video games as instructional documentation and how to construct a higher education classroom as a game.

Keywords: Instructional Design, Role-Playing Games, Video Games, Instructional Documentation, Pedagogy, Case Study, Higher Education

In recent years, scholars have begun to consider games as rhetorical artifacts, applying theoretical methodologies to understanding why and how we should study games as an area of academic research (e.g., Bogost, 2007; McAllister, 2004). Such studies have discussed the cultural, social, and rhetorical significance of video games as artifacts worthy of further study—and perhaps more importantly have formed an academic basis for legitimizing the field of studying games. What these studies lack, however, is an understanding of how to apply such knowledge to the construction of games and instructional design. That is, we know that games are valuable modes of rhetorical, social, and cultural inquiry; what we don't know is exactly how and why they function the way that they do.

Additional studies have emphasized not just the theoretical importance of games but also the application of learning with games. From a pedagogical standpoint, scholars have determined many valuable skills that children can learn from games; e.g., critical thinking, problem solving, digital literacy, lifelong learning practices, and so on (Gee, 2007; Steinkuehler, Squire, & Barab, 2012). Exploratory studies on community building, participatory culture, and formations of self, gender, and

identity, have further strengthened the argument of the powerful pedagogical possibilities of games and virtual worlds (Lee & Hoadley, 2007; Squire, 2011). Yet existing studies on learning and video games tend to focus on skills-based learning by using games such as *Second Life* or *World of Warcraft* as virtual platforms for teaching within existing curriculums (Lester & King, 2009; Chen, 2009). These studies aim to replicate real-world classroom experiences in virtual worlds, often at the risk of emphasizing the medium over the pedagogy and missing the true instructional value of games themselves. Other research has gone in the opposite direction, by exploring ways of gamifying the classroom as a means of subverting traditional methods of assessment and learning (Sheldon, 2012; Salen, Torres, Wolozin, Rufo-Tepper, & Shapiro, 2011). However, none of these studies discuss *why* what they're proposing actually works from an angle of instructional design. That is, theoretically we know that games and game-based learning can be effective; what we don't know is exactly *how* it is accomplished.

In this article, I discuss specific instructional approaches that role-playing games (RPGs) use to engage and teach their players. By analyzing the structure

and play of the free-to-play Massive Multiplayer Online Roleplaying Game (MMORPG) *Rift*, I identify a theoretical heuristic approach to understanding how and why games-based learning is effective.

Methodological Overview

I used a case study design to analyze the instructional impact of *Rift* through the use of personal gameplay, content analysis, and participant observations. Specifically, I gathered data through playing the games myself, observing others play, and analyzing the content of the games from the gameplay sessions. In addition, I conducted pre-observation surveys and post-observation interviews with five research participants to gather additional demographic and qualitative information.

To determine which games to analyze for this study, I relied upon non-randomized purposeful sampling. I first analyzed which RPGs were the most popular of their genre. I researched both fan ratings and critic reviews from three of the top game review websites (Metacritic.com, G4TV.com, and IGN.com). I also triangulated overall statistics from GameRankings.com, consumer reviews from Amazon.com and GameStop.com, subscription information (for the subscription-based titles) at MMOData.net, and global sales data from VGChartz.com (see Appendix A). Specifically I focused on games that were categorized as RPGs and were released within the past 10 years (the newer the better). I ultimately came up with a list of 49 RPG titles from which to start my selection. I played 35 of the total 49 games for at least 30 minutes each (many for an hour or more, and some I already had additional experience with), in a further attempt to determine which of the games would best suit my research goals. Specifically, I looked for those games which would best fit the learning principles I selected as my initial set of heuristics (see Appendix B), and then I coded the games based on a subjective scale of 1-10 in terms of their

effectiveness for each learning principle (see Appendix C for the list of all 49 games). I show the 10 highest-ranking games in Table 1, below.

After playing the games and ranking them based on their effectiveness for each learning principle, I revisited the games that I ranked the highest and therefore found to be most applicable to my study. I also observed other gamers play some of the higher-ranked games, so that I could view the games through another lens. Specifically, I used the Usability Research Lab at Texas Tech University where I brought in participants and administered surveys, observed the participants playing the game, and conducted post-observation interviews. I found this to be incredibly helpful, and I used the information to modify my rankings where necessary and also to think through choosing different games to suit different participant experience levels. That is, one of the primary goals of my study was to ultimately use a set of instructional design heuristics and apply them toward gamifying a higher education classroom. Therefore, I needed to think of how these games would suit varying abilities and learning styles, much like how college instructors consider the importance of variety when designing curriculum. One of the lessons I learned, for instance, is that my primary knowledge about some RPGs meant that I was unintentionally using prior knowledge to complete some tasks in the game. When I observed someone playing a game that they had never played before, I could see places throughout the game where they had trouble learning because they did not have that prior knowledge. While observing, I also noticed that some games were easier for non-gamers to pick up than others, and that increased my interest in trying to determine *why*.

Because of the length constraints of a journal article, I couldn't possibly discuss in this piece all that I discovered in all 49 initial games, nor even in the three

Table 1. Subjective scores of the top ten games based off of my learning principles

Game	Identity	Achievement	Practice	Subset	On Demand & Just-in-Time	Discovery	"Regime of Competence"	Multiple Routes	Average Score
Rift	9	10	9	10	10	8	7	8	8.875
Kingdoms of Amalur: Reckoning	10	9	10	8	9	10	7	8	8.875
Neverwinter	9	10	8	10	9	8	8	6	8.5
World of Warcraft: Mists of Pandaria	8	10	8	10	6	8	8	8	8.25
EVE Online	10	7	5	10	10	7	5	10	8
Final Fantasy XIV	10	9	5	4	10	8	6	7	7.375
Lord of the Rings Online	8	8	7	7	7	8	8	6	7.375
DC Universe Online	8	8	8	7	8	7	6	7	7.375
Dungeons & Dragons Online	8	8	7	7	6	8	8	6	7.25
Mass Effect 2	10	6	8	3	8	3	8	7	6.625

games that I studied in detail. However, in this article I focus on the game that I felt was the most effective overall in instructional design: *Rift*. In doing so, I present an analysis of instructional design of role-playing games (RPGs) through the lens of the title that – according to my study – has done so most successfully. *Rift* is a massively multiplayer online game, or MMORPG. As of 2012 the game had approximately 250,000 online subscribers, ranking it 8th in the world for number of subscribers (Van Geel, 2013). It has since moved to a free-to-play model, a trend that is growing in the MMO genre. I selected this game because I wanted to study an MMORPG, I felt that the instructional design is quite strong, and the free-to-play model of *Rift* makes it an accessible game for a research study.

From a theoretical perspective, I used two major theories to guide my research, specifically when it came to data analysis. These theories are Gee's (2007) principles of learning and games, and Konzack's (2002) gameplay analysis with regard to the 4th layer of ludology, as he terms gameplay. A major finding from Gee's work is that video games have the potential to teach 36 different learning principles, from "active, critical learning" to visual "design" expertise, knowledge about "semiotic domains" to skills in building "committed learning" (Gee, 2007, pp. 221-227). I started my study by referring back to Gee's learning principles that are most relevant to learning in the technical communication classroom and then coding for instances of those principles I observed throughout my study. I ultimately selected eight specific learning principles that I deemed as most relevant to RPGs, and then used those principles as a starting point for my categorization and coding. Those eight principles of learning were: 1) identity (how players create and interact with their identities); 2) achievement (rewards and achievements for completing tasks within the game); 3) practice (multiple, ongoing chances to practice new skills); 4) competence (how well the skill of the learner matches the difficulty of the game); 5) multiple routes (the number of choices players have while making progress in the game); 6) subset (introductory, starting, or tutorial levels of the game); 7) just-in-time (players learn what they need to know just at the time when they need to know it); and 8) discovery (opportunity for players to explore the game's features and environment).

In addition, I referred to Konzack's (2002) layered approach to game studies, in which he broke down the various elements of games so that they could be studied independently of—or perhaps overlapping—one another. His 2002 work is often cited as a methodological framework for a variety of different gaming studies and game study methodologies, especially those based on categorization and coding (see: Aarseth, 2003; Consalvo & Dutton, 2006; Malliet, 2007). Specifically,

the methodological framework he established was based on examining video games by studying them in seven different "layers": 1) hardware, 2) program code, 3) functionality, 4) gameplay, 5) meaning, 6) referentiality, and 7) socio-culture. As part of his 4th layer of gameplay, Konzack (2002) refers to the importance of observing the "interaction between player(s) and the game," which includes everything from time and space to obstacles and achievements (p. 93). With that in mind, I created a matrix for coding and interpreting the data from my case study around Konzack's (2002) 4th layer, or the layer of gameplay, which he also refers to as "ludology" (p. 93). That layer considers elements of: 1) positions ("from which the game is perceived," such as from "audience, players, or judges"); 2) resources ("the means by which the players are able to influence the game"); 3) space (the virtual world); 4) time ("time limit set for the game duration"); 5) goals; 6) obstacles; 7) knowledge (three kinds: "open knowledge (quite often the rules or statistics), hidden knowledge ("e.g., strategy of other players), and random knowledge (e.g., rolling dice or other kinds of randomization)"; and rewards/penalties (Konzack, 2002, pp. 93-94).

Ultimately, I added Konzack's (2002) factors to the eight selected Gee's (2007) learning principles to create an initial coding schema for my data. I found it useful to consider both theorists' work to guide my research, and as such I created a matrix to organize my data, similar to how Malliet (2007) and Consalvo and Dutton (2006) utilized Konzack's methods to create their own taxonomy for analyzing gameplay. I then took that matrix and cross-referenced it with Gee's (2007) eight learning principles I selected, so that I could code both together, as well as more easily view the overlapping areas between the two theorists' work. Table 2, below, shows what that matrix looked like in practice.

As my study progressed, I modified the heuristics as necessary until I reached a final set of working heuristics that I have found to be representative of the instructional design within RPGs. Such heuristics can ultimately be used to conduct additional studies on the instructional design of games.

***Rift*: Gameplay**

For this study, I incorporated three distinct phases of analysis of the instructional design of *Rift*: 1) personal gameplay; 2) content and rhetorical analysis; and 3) observation of participants as conducted through Texas Tech University's Usability Research Lab. Although I have been playing *Rift* as a casual player since its launch in 2011, I played the game specifically for this study between January 24, 2014 and March 18, 2014. I played for 55 hours and leveled six different characters during this time, being sure to specifically repeat the tutorial areas of the game as much as possible. This is because much of the learning in a role-

Table 2. An example of how I incorporated Gee (2007) and Konzack (2002) into my coding schema.

		Konzack's 4th Layer							
		Positions	Resources	Space	Time	Goal	Obstacles	Knowledge	Rewards/penalties
		How do players view the game?	How can players influence game?	Does virtual world affect reality?	Time limitations?	Goals?	Obstacles toward goals?	Rules, strategies, randomizations?	Rewards and penalties?
Gee's Learning Principles	Identity	Creation, customization							
	Achievement	Rewards, signals, feedback							
	Practice	Practice, time on task							
	Competence	Challenging but not undoable							
	Routes	Multiple ways to progress; choice							
	Subset	Simplified subset of domain							
	Just-in-Time	Info can be used and practiced							
	Discovery	Exploration, discovery							

playing game (RPG), and especially within a massively multiplayer online role-playing game (MMORPG) such as *Rift*, is concentrated in the early levels. Moves such as teaching learners how to navigate within the virtual environment (keyboard controls, camera controls, basic movement and combat skills, map access and navigation, quest access and journal information, and so on) are concentrated in the beginning tutorial levels of an RPG, and then are often repeated for players to practice throughout the rest of the game with increased difficulty. Therefore, as I played the game, I was sure to concentrate most of my efforts within the first starting sections of the game's tutorial, specifically focusing on the first hour of gameplay. I didn't stop there for many of the characters I created, yet rather than discuss each experience separately (which would result in repeating much of the same information), I combine my overall experiences below. In addition, I observed participants play the game between the dates of March 23, 2014 and April 20, 2014. Each participant played for at least an hour, while I videotaped the session and conducted pre-gameplay surveys and post-gameplay interviews. In this section, I discuss some of the major gameplay elements of *Rift* that I noted throughout my study.

Identity Creation and Customization

One of the first things an RPG offers is the chance for players to create and customize their on-screen virtual identities. The process can vary, but nearly every RPG offers the players the chance to choose a gender and at least in a small way choose the visual aesthetics they'd like their character to represent. In a game like *Rift*, the players also have the ability to select how they would ultimately like to play the game by

choosing a race (see Figure 1), which helps establish the character's place in the game's overall lore, as well as the character's inherent abilities. Players also get to select a class, which determines what type of mechanics and overall gameplay experience the player would like to have. Because this is usually the first thing that RPGs teach, this was the first thing that I experienced chronologically while playing the game. In *Rift*, the identity creation and customization is experienced through five separate stages: 1) choosing a faction; 2) customizing a race and gender; 3) selecting a class (warrior, mage, cleric, or rogue); 4) narrowing down a customization (healer, tank, or damage); and 5) picking a name and customizing the character's aesthetics such as height, hair color, body markings, and skin tone. In all RPGs this opportunity for identity customization and creation is what drives a player's connection and empathy within the game. This is also a vital step in the learning process. As Lee and Hoadley (2007) put it, RPGs "promote



Figure 1: Choosing a race in *Rift* (Trion Worlds, 2014b).

learning by motivating and engaging students through the direct leverage of identity enactment and role play; that is, they deeply recruit an individual's identity while taking on the identity of a character in the game" (p. 5). Therefore, it is no coincidence that RPGs such as *Rift* allow for players to first construct identities within their games; identity creation is the game developer's first chance to immerse and engage players into their virtual worlds.

Basic Movements

After a short introductory cinematic (about 90 seconds in length), players are allowed to move and operate their characters; their immersion into the virtual world begins. Now is when *Rift* begins its explicit instructional design, providing tutorials that are given in both written text and oral narrative. To start off, the game introduces which keyboard commands to use to move the characters: W, S, A, and D. It also provides some basic instruction on how to navigate the game and interact with the non-player characters (NPCs), as described in the next section. The blended audio/textual tutorials that begin at this point in the game offer an interesting instructional approach that I haven't seen in other MMORPGs by providing explicit tutorial guidance for multiple learning styles. As Collins and Halverson (2009) suggest, new media such as video games provide the perfect opportunity for instructors to address various learning styles (pp. 24-25). Here, *Rift* is

embodying that power of new media by supplying its players with several different paths for learning: by providing tutorials both visually and auditory, and then allowing for practice via hands-on learning opportunities.

Quests and Interacting with NPCs

Just a few feet ahead of the starting point, the game tells the player to interact with a figure ahead. This person is a quest-giver and by clicking on him or her players can pick up their first quest, or task, in the game. In addition, quests propel the lore and narrative of the game; each quest provides some back story as to what is happening in the world as a whole and what is happening with a player's individual character. This helps provide both interest in the game's virtual reality, as well as immersion into the game's culture and customs. Once the player has selected the first quest, the game responds with large, shiny text on the screen and a satisfying audio accompaniment that announces; "Quest Accepted" (see Figure 2). This provides feedback for the player to keep going and to keep practicing what they've learned so far (by using the keyboard or mouse for basic movement control and interacting with non-player characters (NPCs) to get more quests to complete). Likewise, when a player has completed a task, the game responds with "Quest Complete," once again providing the player with feedback, reassurance, and a sense of accomplishment (see Figure 3). This interaction between the player and NPCs is such an integral part of *Rift* and, indeed, a part of all RPGs that the game allows for players to practice this interaction in the very beginning of the game. Not only does this provide players with plenty of opportunities of practice, thereby embodying Gee's (2007) Practice Principle that students are given "lots and lots of practice in a context where the practice is not boring" (p. 223), but it also begins what Taylor (2009) refers to as the "socialization process" of an MMORPG, or when the game works to "acculturate players into the world and the gameplay: the structure of the game itself, and the culture and practices that have emerged in and around it" (p. 32). This enculturation begins first with the identity creation process and continues here, as we see players first interact with NPCs and learn more about how to act and interact within the virtual space. This step is so important to the overall gameplay experience, in fact, that the first quest does nothing more than to allow players to accept it and then go to someone else to turn it in. It isn't until the second quest that the next major aspect of the game is introduced: the combat mechanics.

Combat Mechanics

After the player practices accepting a quest and turning it in, the game introduces a quest that requires combat. The specific quest is different depending on whether the player selected Guardian or Defiant, as



Figure 2. Accepting the first quest (Trion Worlds, 2014d).



Figure 3. Completing the first quest (Trion Worlds, 2014e).



Figure 4: The combat basics tutorial for the Cleric class (Trion Worlds, 2014c).

each alliance has its own separate starting areas and quest chains. But the basics of the quest are the same: go and kill a certain number of enemies and then report back to the NPC. Here is where the player receives a basic tutorial on combat: how to interact with enemies, including fighting them (via magical spells or melee combat with a sword, mace, or staff). In *Rift*, the combat tutorials are class-specific, meaning that clerics will see a different tutorial than rogues who will see a different tutorial from mages who will see yet another tutorial from what warriors will see (see Figure 4). This is because each class has its own fighting style (up-close vs. far away, magic vs. melee attacks, and so on), so the developers of *Rift* have provided class-specific tutorials so that players learn how to operate their specific avatars. In addition to learning how to fight, it is during this time that players also learn what some of the icons mean on the screen. For instance, when they engage in battle, bars shows up above the character's head and above the enemy's head; these are indicators of health and additional powers (if your class has them). Some classes, for example, build combo points depending on the types of attacks that they use on enemies, which when built up can then be used for even more powerful attacks. If the gamer is playing one of these classes, then *Rift* will show them what these combo points mean and where to find them on the screen. Once again, the tutorials are presented via both written text and audio narration in an effort to cater to different types of learners. This moment in the gameplay – when *Rift* introduces combat mechanics – is when learning first becomes customized for the player. What they learn is customized to what exactly they need and at what precise moment. Warriors will only learn warrior combat moves; mages will only learn mage combat moves. Players are given the information that they need to succeed, but no more and no less.

Simplified Subset

While players learn to navigate within *Rift*'s virtual world, they are learning within a “(simplified) subset of the real domain” (Gee, 2007, p. 225). The introductory area is much smaller than the actual world and there is a very small chance of death or major injury.

Enemy NPCs at the beginning of the starting areas are “yellow,” meaning that they will not attack the player unless the player attacks first (see Figure 5). It isn't until later, after the player has plenty of time to practice navigating the controls and engaging in combat, that the enemy NPCs become “red” or aggressive, meaning that they will attack the player even if the player doesn't attack first. Players don't come into contact with “red” NPCs until around Level 5, once they've had time to practice their combat skills and get familiar with the game's interface. In addition, “green” NPCs are friendly NPCs that you cannot attack and will not attack you. Typically they **provide quests, services, goods, and lore that the player can use to learn more about the game** or increase their overall enjoyment of their play experience. The color of the NPC (yellow, red, or green) appears above the NPC's head, letting the player know what the action of the NPC will be (if any), should the player wander too close. In this simplified subset, players are learning to explore, discover, and work towards the completion of their goals without the fear of immediate death or failure. This opportunity for practice within a low-risk environment provides the basis for ongoing success in the game.

Ongoing Feedback

As a player progresses toward completing a quest, *Rift* also provides ongoing feedback and updates as to the status of the quest completion. For instance, if

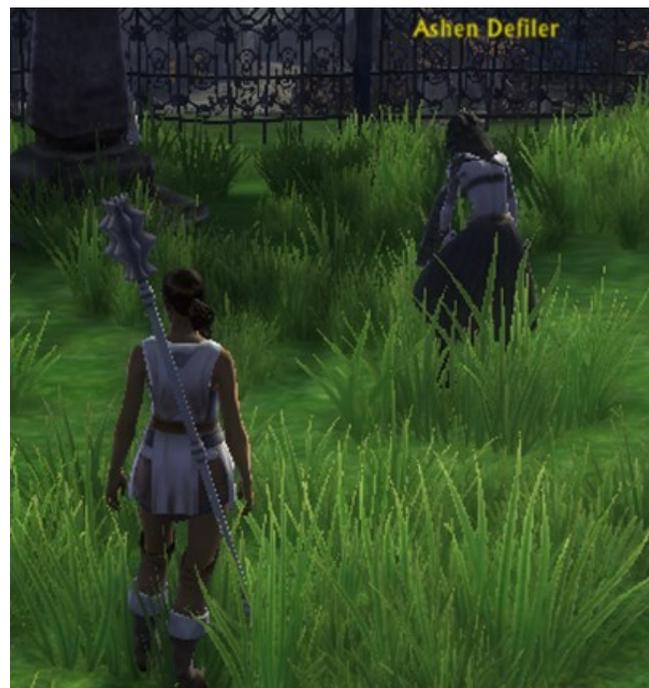


Figure 5: The yellow text of “Ashen Defiler” lets players know that the enemy won't attack them unless players attack first (Trion Worlds, 2014a).

the game gives a player a quest to pick up four items, a progress notification will show up on the screen every time. As an example, an introductory quest on the Guardian side of the game asks players to collect four imbued swords. As a player picks up the first sword, yellow text comes up on the middle of the screen that says: “Collect Imbued Swords 1/4.” Independent game developer Kyle Gabler calls this feature “juiciness”; the juicier a game is, the more “positive feedback” it gives to the players (Juul, 2010, p. 45). Casual games, such as those we play on smart phones, are known for being especially “juicy” in that they are consistently playing bells and whistles, showing shooting stars and animations, and so on, every time a player does something good, such as pass a level or win a hand of solitaire. In *Rift*, the juiciness is quite high. The game indicates quest acceptance, progress towards quest, and quest completion – all with glowing text, sound effects, and music to provide ongoing feedback toward the player’s progress. Similar to the leveling up mechanism, the ongoing feedback system that *Rift* provides demonstrates to players how well (or perhaps how poorly) they are progressing in the game. Feedback occurs both in positive ways – such as through flashing lights, rewards, and achievement notifications – as well as negative ones, such as death or failure toward reaching a goal. Of course, players are always given the opportunity to re-try a “failed” opportunity, with the chance to turn that failure into an achievement. To that end, I found that the ongoing feedback inherent within the gameplay of *Rift* provides players with cyclical opportunities for learning. The continuous feedback system gives players additional insights and knowledge about the game’s rules and strategies so that they can further improve.

Discovering New Areas

Gee’s (2007) learning principle of discovery describes ways in which games allow players to explore and discover new areas. In *Rift*, the game indicates when a player has discovered a new area by announcing it with shiny text that appears in the upper middle portion of the screen. This not only encourages discovery but also provides valuable feedback about a player’s progress in the game. Of course, players in *Rift* are free to discover new areas, but only so far. The game aims to restrict players to areas that are level-appropriate; it is difficult if not impossible for players to venture into areas with NPCs and enemies that are at a much higher level than they are, and if players do happen to run into one of those locations, they are often quickly killed by an enemy NPC as a learning mechanism for letting characters know that they have wandered into an area that is too difficult for their current level. As described above, the map and navigation system acts as a guide for player actions within the game; the map tells players where they can go and where they cannot yet explore.

However, an RPG such as *Rift* nearly always encourages discovery. If anything, the areas on the map that are not yet able to be explored act more as dangled carrots of encouragement of what can be explored later on in the game, if only the player works hard enough.

Rift: Establishing the Results and Heuristics

Of course, based on the parameters of this article, I can’t possibly describe each and every aspect of an MMORPG, particularly due to the games’ complexity and customized experience. (For example, I would have separate stories to tell based on the type of character I chose to create, and there are hundreds of examples to choose from.) However my goal is to describe the results from my own personal gameplay observation as they relate to this study. For a more comprehensive overview of each of the instructional moves I charted throughout my study, see Table 3, which outlines the specific instructional moves I observed during *Rift*’s gameplay and also provides a short description of each.

For each of the instructional moves I observed, I coded them based on the 16 initial heuristics (the combined list from both Konzack’s (2002) 4th layer of ludology and the 8 heuristics I selected from Gee’s (2007) learning principles; see Appendix B). This included tracking the instructional moves based on each heuristic, and noting when each occurred throughout the game. Several patterns began to form at this point of my study, and the data points collected pointed to several areas of note, which I describe a bit more in the following sections.

Establishing the Heuristics

With the above data points and observations in mind, my heuristics were then reduced from 16 initial heuristics down to nine final heuristics of instructional design that I have found are present in RPGs:

1. **Competence.** *How difficult are various aspects of the game, and does the game overall remain challenging yet not undoable?*
2. **Discovery.** *Are players given the chance to explore and discover within the game, and are they encouraged to do so?*
3. **Goals and Obstacles.** *What goals are presented to the players? What obstacles do the players face that attempt to impede the players from meeting their goals?*
4. **Identity.** *In what ways are players allowed to create and customize their digital identities in the game?*
5. **Just-in-Time.** *Is instruction provided at a time, and in a manner, when it can be used and practiced (as opposed to a time that is out-of-context with learning)?*

Table 3. Summary of Gameplay Observations of the Game Rift

Instructional Observation	Description
Identity Creation and Customization	Players are given the chance to create and customize their on-screen virtual identities, including: faction, race, gender, class, and specialization, as well as a character name and visual aesthetics.
Introductory Cinematics	A cinematic introduces the game's lore and specifically describes an overview of the character's back story.
Basic Movements	The immersion into the virtual world begins, as players are allowed to move and operate their characters. Tutorials are both written and auditory.
Quests and Interacting with NPCs	Players pick up their first quests (tasks) in the game. Quests provide interest and immersion in the game's virtual reality.
Combat Mechanics	Gamers receive basic, class-specific instruction on combat, as well as a quest to allow them to practice the combat mechanics.
Simplified Subset	Players learn within a simplified subset of the game world, where risk of death or failure is relatively low.
Interacting with Other Players	MMOs specifically allow for players to interact with other players in real-time. The game provides instruction on how to interact with others to work toward common goals.
Leveling Up	As players complete quests, they earn XP (experience points), and their characters level up, becoming more powerful.
Loot	Gamers learn that most enemy characters will drop loot (gear, consumables, or currency) when killed; the game provides a tutorial to explain how to pick up what they've earned.
Maps and Markers	The game provides explicit instruction on how to navigate the game's geography, and locate specific characters or resources, throughout the virtual world.
Interacting with Objects	Players receive a quest requiring them to interact with objects in the virtual world, thereby teaching them how to pick up and use objects to help fulfill certain goals.
Ongoing Feedback	As players progress towards completing quests, the game provides ongoing feedback and status updates. Glowing text, sound effects, and music all provide feedback as to the player's progress.
Equipping Gear	Once a player receives new gear, the game provides a tutorial explaining how to equip and customize it to make their character more powerful.
Discovering New Areas	The game encourages discovery by providing feedback and reward for exploration – but only so far, as the game also restricts players to those areas of the game that are level-appropriate.
Customizing the Interface	Players are allowed to customize their user interface (UI), including settings such as audio and video settings, gameplay preferences, and key bindings and locations of certain elements on the screen.
Moving Beyond the Subset	Once players move beyond the simplified subset of the game, learning accelerates. Opportunity for exploration deepens, choice for various routes to completing certain goals amplifies dramatically, and the difficulty of the game also increases.
Crafting and Gathering	After leaving the starting area, players learn how to gather materials and craft gear, consumables, and other in-game items that they can use to make their characters stronger or sell or trade to other players.
In-Game Store	<i>Rift</i> is a free-to-play game, but an in-game store allows players to purchase additional items for those who would like to invest more than just time into the game.

6. **Knowledge.** *What knowledge (rules, strategies, and/or randomization) occurs within the game?*
7. **Practice.** *How often and when are players given the opportunity to practice new skills?*
8. **Feedback.** *What rewards or penalties does the game enforce? What rewards, signals, and feedback does the game provide?*
9. **Routes.** *Are players given multiple ways to progress, with ample opportunities to choose their individual paths within the game? If so, how?*

In addition, I also looked at the overall data to determine when, exactly, these heuristics occurred in relation to one another (see Table 3). I learned that several learning heuristics happen within the game in a certain order or within a certain respect to another heuristic. Knowledge (rules, strategies, and randomization) occurs throughout the game, except for in two instances: the cut scenes. This isn't to say that players aren't gaining knowledge about the game during this time, however, only that specific rules and strategy aren't being explicitly introduced. Furthermore, there seems to be a clear cycle between when Goals and Obstacles are introduced and when Feedback occurs. Interspersed with this cycle is the heuristic of Practice; players learn and practice a new skill, are given goals to complete, and then are given feedback in response to how well they performed those goals (see Figure 6).

It's also clear that as Competence grows, players are given access to additional Routes that they can use to reach their goals. The better they get at the game, the more branched options they have to complete their objectives. And, as additional routes are introduced, so are opportunities for Discovery. It is at this point that players begin to experience additional freedom within the game to discover and explore additional elements of the game, to the geography of the virtual world to multiple, branched quest chains (see Figure 7).

Finally, Identity peaks at the beginning of the game to establish a personal connection with the game, and then again after each major completion cycle of Goals and Obstacles. That is, it seems to be linked to Feedback; the opportunity for further customization of the character's identity is often a reward for completing certain goals within the game. All of these aspects become interesting data points to consider with regard to the instructional effectiveness of RPGs. The complete visualization of how all of these instructional heuristics interrelate can be seen in Figure 8, below.

Therefore, we can now see how each of the nine heuristics overlap and yet inform one another in interesting, overlapping ways. Players begin with constructing an identity; they then learn knowledge about the game. As they learn and practice their new skills, their

competence increases, at which point they earn additional opportunities for discovery and multiple routes for completing goals and overcoming obstacles. Players then get feedback on their progress, at times in the form of additional opportunities for identity customization. The loop then begins once more, feeding back into additional knowledge that the players learn once again.

Conclusion

Some of the heuristics outlined in this article may seem familiar based on other works in instructional design and workplace training. Stolovitch and Keeps (2011), for instance, noted the importance of feedback to the learning process, calling it "one of the most powerful mechanisms for learning" (p. 77). My study supported this claim, in that some of the best instructional design of RPGs occurs when players receive feedback—good and bad—based on their progress throughout the games. In addition, Dirksen (2012) asserted that one of the most important elements of instructional design is for instructors to establish clear goals. This mirrors what I found in studying the instructional design of *Rift*, as it's crucial that learners must first understand what is expected of them. Learners may ask, "What is the goal? What problems should I solve? What obstacles are in my way?" Good instructional design includes answers to such questions, so that learners can easily understand how to accomplish their tasks. A final example is Peters (2014), who discussed the importance of supporting learner "autonomy by offering choices" (p. 170). This is similar to the heuristics of discovery and identity, in that good RPGs provide their players with plenty of opportunity for customizing character experiences based on their own personalized choices. By providing gamers with self-directed options in identity creation and narrative, it increases the personal connections that learners make with the content. However, despite some cross-over between this study and existing studies in instructional design, workplace training, and learning theory, this study marks the first time that such best practices of instructional design have been applied and examined specifically through the lens of RPGs.

Whereas Gee (2007) provided a useful starting point for understanding 36 potential things that games teach their players, the heuristics I have outlined in this study specifically point to the nine areas in which RPGs are most effective in teaching their players. This research goes beyond a list of what video games in general *might* be able to teach players but rather shows exactly how role-playing games in particular *do* teach their players. This helps create further directions in forming methodologies for studying games, particularly for scholars interested in further investigating the instructional design and/or rhetorical appeal of RPGs.

Furthermore, when Konzack (2002) presented his methodology for studying video games, he looked at how scholars may split up a game into multiple parts (software, hardware, gameplay, and so on) and then analyze each as part of a study. This has been the leading framework for studies such as those of Consalvo and Dutton (2006) and Malliet (2007), who have used Konzack's work as a means of categorizing and coding the functionality of games. However, my aim in this study was to specifically focus on the analysis of the *instructional design* of games, an area on which Konzack didn't explicitly focus. These heuristics, then, can provide a starting framework for scholars interested in further investigating the instructional design of games and, in particular, of RPGs. I also hope that these heuristics will serve as useful starting points for all game researchers – those who study the theoretical and rhetorical aspects of games, as well as those who study them with an interest toward practical, game design. This is because the heuristics could ultimately be used in at least two ways: 1) as a starting point to investigate the theoretical and/or rhetorical nature of RPGs and; 2) as a means of further analyzing effective game design.

The heuristics that I have outlined in this article provide us with a baseline for exploring the instructional design and effectiveness of RPGs. Potential implications of these heuristics are numerous. For example, these heuristics could help instructors determine how to best construct a classroom as a game. Understanding, for instance, the effectiveness of a cyclic pattern of learning between knowledge, practice, goals and obstacles, and feedback can help instructors construct a gamified or games-based curriculum for nearly any course or assignment. Such best practices could also be used as a guide for teaching games as a genre of effective instructional design. That is, by understanding the nine components that are most effective in teaching players within RPGs, technical communicators could transfer that information to helping students understand the most effective elements when constructing instructional documentation, such as tutorials, frequently asked questions databases, instructional manuals, and walkthroughs. Finally, these heuristics can be used to help guide our own reflective pedagogies, as well. That is, just as our students engage in a reflective cycle of knowledge and feedback so do instructors. We can use this set of heuristics to guide our own pattern of teaching, learning, and improvement as well, to help us see the bigger picture in our own pedagogical practices.

Yet whereas I have worked to create and describe a set of instructional design heuristics that are inherent in RPGs, it is clear that this is only the beginning of a much larger study. It would be impossible to discuss all instructional aspects of RPGs within the context of one article, just as it would be impossible for one researcher

to analyze and construct a study around the analysis of every RPG ever created – at least within the parameters of publication. Therefore, additional studies need to occur in order to further refine these heuristics and apply additional findings toward improving our overall understanding of learning with – and from – games.

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Appendix A: List of Games and Overall Popularity Rankings, In Order of Popularity

Game	Platform	Metacritic *	G4 †	IGN ‡	GameRankings §	GameStop	Amazon ¶	Total Average Rating
Mass Effect 2	PS3	89%	100%	95%	93%	95%	90%	94%
Star Wars: Knights of the Old Republic	PC	91%	-	92%	84%	100%	90%	91%
Dark Souls	PS3	88%	100%	-	90%	90%	90%	92%
Borderlands 2	PS3	87%	100%	89%	91%	91%	90%	91%
Ni No Kuni: Wrath of the White Witch	PS3	86%	-	94%	86%	93%	90%	90%
Torchlight II	PC	88%	90%	89%	89%	78%	100%	89%
Guild Wars 2	PC	85%	100%	90%	90%	86%	80%	88%
Path of Exile	PC	87%	-	89%	86%	-	-	87%
The Elder Scrolls V: Skyrim	PS3	76%	100%	94%	88%	87%	80%	88%
The Walking Dead: Season One	PC	88%	-	93%	93%	69%	90%	87%
Dragon Age: Origins	PC	88%	80%	91%	91%	84%	80%	86%
Dragon's Crown	PS3	83%	-	85%	83%	95%	90%	87%
Deus Ex: Human Revolution	PC	86%	80%	89%	93%	86%	80%	86%
EverQuest II	PC	79%	80%	83%	85%	91%	90%	85%
EVE Online	PC	84%	-	83%	90%	100%	60%	83%
Darksiders II	PS3	76%	90%	80%	85%	88%	90%	85%
Mass Effect 3	PS3	70%	100%	93%	92%	86%	60%	83%
The Witcher	PC	86%	80%	86%	82%	73%	80%	81%
Dragon Nest	PC	78%	-	84%	85%	-	-	82%
Baldur's Gate II: Enhanced Edition	PC	78%	-	83%	78%	-	90%	82%
Dragon's Dogma	PS3	80%	80%	79%	80%	90%	80%	82%
Star Wars: The Old Republic	PC	72%	100%	88%	84%	76%	70%	82%
Rift	PC	79%	80%	84%	85%	80%	70%	80%
Final Fantasy XIV	PC	79%	-	90%	81%	72%	70%	78%
Kingdoms of Amalur: Reckoning	PS3	79%	50%	88%	81%	87%	80%	77%

Appendix A List of Games and Overall Popularity Rankings, In Order of Popularity (Continued)

Game	Platform	Metacritic *	G4 †	IGN ‡	GameRankings §	GameStop	Amazon ¶	Total Average Rating
Drakensang: Complete Saga	PC	92%	-	79%	50%	-	90%	78%
World of Warcraft: Mists of Pandaria	PC	81%	45%	82%	92%	65%	80%	74%
Lord of the Rings Online	PC	80%	-	-	90%	80%	50%	75%
Dungeons and Dragons Online	PC	73%	-	77%	83%	90%	60%	76%
Aion	PC	71%	80%	83%	84%	-	60%	75%
Forced	PC	76%	-	-	74%	-	-	75%
Tera	PC	73%	80%	72%	76%	77%	80%	76%
The Incredible Adventures of Van Helsing	PC	78%	-	74%	74%	-	70%	74%
The Secret World	PC	78%	50%	76%	74%	86%	80%	74%
Dragon Age 2	PS3	63%	-	84%	79%	79%	70%	75%
PlanetSide 2	PC	77%	-	-	84%	-	60%	74%
Ryzom	PC	70%	-	75%	66%	-	90%	75%
DC Universe Online	PC	70%	80%	75%	73%	-	70%	74%
Diablo III	PC	63%	-	89%	88%	63%	50%	71%
Might and Magic Heroes VI	PC	69%	-	79%	80%	-	50%	69%
Neverwinter	PC	67%	-	73%	74%	-	-	71%
Two Worlds II	PC	70%	60%	67%	75%	65%	70%	68%
Runes of Magic	PC	64%	-	80%	69%	-	50%	66%
Fable III	PC	64%	-	69%	72%	60%	70%	67%
Star Trek Online	PC	64%	60%	71%	68%	-	60%	65%
Defiance	PC	65%	-	70%	66%	58%	60%	64%
Dungeonland	PC	72%	-	62%	70%	-	50%	63%
Forsaken World	PC	61%	-	-	68%	-	-	65%
Arcania: Gothic 4	PC	53%	-	72%	64%	62%	50%	60%

* Total is average of both Metacritic.com critic and fan reviews. Source: CBS Interactive, Inc. (2013). *Metacritic.com*. Retrieved December 17, 2013 from <http://www.metacritic.com>.

† Source: G4 Media, LLC. (2013). *G4TV.com*. Retrieved December 17, 2013 from <http://www.g4tv.com>.

‡ Total is average of both IGN critic and fan reviews. Source: IGN Entertainment, Inc. (2013). *IGN.com*. Retrieved December 17, 2013 from <http://www.ign.com>.

§ Source: CBS Interactive, Inc. (2013). *GameRankings.com*. Retrieved December 17, 2013 from <http://www.gamerankings.com>.

|| Source: GameStop. (2013). *GameStop.com*. Retrieved December 17, 2013 from <http://www.gamerankings.com>.

¶ Source: Amazon.com, Inc. (2013). *Amazon.com*. Retrieved December 17, 2013 from <http://www.amazon.com>.

□ A dash indicates that no data is available.

Appendix B: Introductory Heuristics for Content Analysis

Code	Description
Positions	How do the players view the game?
Resources	To what extent can the player influence the game?
Space	What occurs within the virtual space that may affect the real world and vice versa?
Time	What time limits, if any, are set within the game?
Goals	What goals are presented to the players?
Obstacles	What obstacles to the players face that attempt to impede the players from meeting their
Knowledge	What knowledge (rules, strategies, and/or randomization) occurs within the game?
Rewards/Penalties	What rewards or penalties does the game enforce?
Identity	In what ways are players allowed to create and customize their digital identities in the game?
Achievement	What rewards, signals, and feedback does the game provide?
Practice	How often and when are players given the opportunity to practice new skills?
Competence	How difficult are various aspects of the game, and does the game overall remain challenging
Routes	Are players given multiple ways to progress, with ample opportunities to choose their individ-
Subset	Does learning begin within a subset domain, a simplified area where the risk of failure remains
Just-in-Time	Is instruction provided at a time, and in a manner, when it can be used and practiced (as op-
Discovery	Are players given the chance to explore and discover within the game, and are they encour-

Appendix C: Complete List of RPGs Considered for This Study

Aion	Kingdoms of Amalur: Reckoning
Arcania: Gothic 4	Lord of the Rings Online
Baldur's Gate II: Enhanced Edition	Mass Effect 2
Borderlands 2	Mass Effect 3
Dark Souls	Might and Magic Heroes VI
Darksiders II	Neverwinter
DC Universe Online	Ni No Kuni: Wrath of the White Witch
Dungeons & Dragons Online	Path of Exile
Defiance	PlanetSide 2
Deus Ex: Human Revolution	Rift
Diablo III	Runes of Magic
Dragon Age 2	Ryzom
Dragon Age: Origins	Star Trek Online
Dragon Nest	Star Wars: The Old Republic
Dragon's Crown	Star Wars: Knights of the Old Republic
Dragon's Dogma	Tera
Drakensang: Complete Saga	The Elder Scrolls V: Skyrim
Dungeonland	The Secret World
EVE Online	The Witcher
EverQuest II	Torchlight II
Fable III	Two Worlds II
Final Fantasy XIV	The Incredible Adventures of Van Helsing
Forced	The Walking Dead: Season One
Forsaken World	World of Warcraft: Mists of Pandaria
Guild Wars 2	