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The Theory and Practice of Rhetorical Gaming for Composition Instruction

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GAMECRAFT: THE THEORY AND PRACTICE OF RHETORICAL GAMING
FOR COMPOSITION INSTRUCTION

A Thesis

Submitted to the Faculty

of

Purdue University

by

Jeffrey M. Gerding

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of

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To Stacey, for convincing me to move with her to West Lafayette.

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ABSTRACT

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In recent years videogames scholarship has grown from a small interest group within rhetoric and composition to a burgeoning interdisciplinary subfield. This growth has not been without problems or controversies, however, and on the whole there seems to be little consistency in either theory or practice when it comes to integrating games into composition curriculum. The purpose of this thesis is to examine a number of theories, concepts, procedures, and issues in the history of games and composition in order to suggest a possible direction for the future. To be clear, this is not an attempt to standardize a rule-governed system for gaming-based composition pedagogy, but rather a call for direct action and discussion about how exactly composition instructors should effectively and ethically introduce games into their classroom.

With this in mind I present *gamecraft*, a value-based philosophy of composition for rhetorical gaming, one that I hope will lead to a more structured and unified discussion within the field. By connecting this concept to scholarship on learning, literacy, new media, rhetorical theory, and practical design, I hope to offer a unified foundation from which to establish *gamecraft* as a natural

progression of rhetoric and composition scholarship rather than a new direction. By connecting the values of *gamecraft* to my own experiences teaching an assignment using *Portal 2* and the *Portal 2 Puzzle Maker*, my goal is to suggest practical, theoretical, and pedagogical approaches that will hopefully make *gamecraft* useful for a broad range of instructors, courses, approaches, and institutions.

CHAPTER 1. LEARNING AT THE INTERSECTION OF WRITING, RHETORIC, AND PLAY

1.1 Introduction

In the last decade or so game studies has emerged as a growing subfield within rhetoric and composition. Today, a growing number of scholars within the field accept that games can play an important role in the teaching of composition. As such, it's no longer enough to argue that games deserve to be integrated into composition instruction and scholarship. What's needed now is a theory that both elaborates on how to do this effectively and explains precisely why we are doing it. The purpose of this project, then, is to theorize a philosophy of composition rooted in gaming that also emphasizes rhetorical design, tacit knowledge, reflexive awareness to learning, and a view of composition as a craft. For the sake of simplicity, I refer to my approach as *gamecraft*.

Gamecraft is an approach to composition instruction based not only on playing, analyzing, and designing games, but also the broader media environment of gaming and the values we recognize and advocate through our teaching and scholarship. To teach *gamecraft* is to make students aware of games as designed artifacts that simultaneously form and are formed by complex interactions between communities, environments, and technology. For students, *gamecraft* involves a direct and engaged involvement with games, both as a

player and as a designer. For composition scholars and instructors, *gamecraft* requires reconsidering how we think about teaching and writing, including everything from issues of knowledge-formation and basic concerns of content, to complex problems like transfer, learning outcomes, and assessment. While some of these issues will be explored in the following chapters, many will continue to pose questions to which there are no simple answers. In what follows I will introduce *gamecraft* by exploring at least some of these theoretical, practical, and pedagogical concerns. While the view of *gamecraft* offered here is only a starting point, it is my sincere hope that this emerging theory will prove interesting and useful for composition scholars and instructors and that the ideas herein will be tested, challenged, and improved to the general advancement of gaming-based composition pedagogy in the future.

1.2 Teach with Portals

In 2012, the Valve Corporation announced the re-release of one of its most popular videogames, *Portal 2*, as an educational version available for free to teachers. This new initiative, Teach with Portals, utilized the company's digital distribution platform, Steam, to release licenses of the full game to educators who applied for the program on their website. At the 2012 Games for Change festival, Valve's Director of Educational Programs Leslie Redd and Interaction Designer Yasser Malaika explained that the centerpiece of the program, a level editor called the *Puzzle Maker*, was developed following internal discussions at

Valve about ways to tap into fan demands for additional game content. The solution was to add a downloadable expansion for *Portal 2*, dubbed the Perpetual Testing Initiative, which Malaika described as “a simple point and click interface for anybody who had used *Portal*.” Rebranded for Teach with Portals as the *Puzzle Maker*, it uses the same graphics and mechanics as *Portal 2* and allows users to drag and drop objects from the game into a fully customizable empty puzzle chamber (Teach with Portals). Users are then able “to quickly go back and forth between the author view and the consumer view” to see the puzzle they just created now rendered as a level almost identical to those in the commercial game (GamesforChange).

Though Teach with Portals is focused specifically toward K-12 science and mathematics instructors, the tools are flexible enough to be used in almost any type of classroom at any level of education. For composition in particular, Teach with Portals offers an extremely flexible tool that can apply to almost any type of approach in rhetoric, literature, creative writing, and the digital humanities, among others. Furthermore, as a “3D game design tool” based on a popular commercial game, the *Puzzle Maker* blurs the line between production and consumption, user and creator, or player and designer. In spring 2013, I piloted a unit project that had students play *Portal 2*, create their own levels using the *Puzzle Maker*, blog about their experiences, and record their gameplay to produce a video tutorial showing the process they took to create their levels. In

what follows, I will draw from these experiences to explore the theory and practice for integrating game design into the first-year composition classroom.

While a significant amount of scholarship already exists arguing for the place of games in education, less research has been done on the potential for game design in the classroom, particularly within composition studies. While many universities offer courses in game design, almost all of these are in computer and technology disciplines, and as such focus on the technical knowledge and skills necessary for designing and programming games. Though integrating game design in the composition classroom must necessarily involve teaching some technology skills, the *Portal 2 Puzzle Maker* is ideal for demonstrating the rhetorical dimensions of game design without requiring a substantial amount of prior knowledge or training. Synthesizing a comprehensive model for rhetorical game design in the composition course understandably involves navigating a number of interconnecting disciplines. As such, rather than suggesting a single approach, my goal is to develop a sustainable philosophy that incorporates prior work in this area while also acknowledging that this must be flexible enough to stay relevant as technologies rapidly shift and the focus of games scholarship evolves. This will become even more important now that other game developers like Electronic Arts (EA) have noticed the publicity generated by Valve's educational experiment and started to release their own.

1.3 Tacit and Explicit Knowledge

Rather than jumping straight into game design, I want to begin by setting up a number of concepts crucial for understanding how learning and knowledge-acquisition in general can be understood in interactive digital systems, like videogames. In *A New Culture of Learning*, Douglas Thomas and John Seely Brown suggest that even the most fundamental ideas about education and learning from the 20th century no longer apply today. Learning, they argue, cannot be understood as “an isolated process of information absorption,” but rather has become “a cultural and social process of engaging with the constantly changing world around us” (Thomas and Brown 47). The contexts of learning have changed, which in turn forces reconsiderations of everything from how and what instructors should teach to how we can identify and measure student learning. If, as Thomas and Brown assert, the traditional models of education are no longer relevant, then new models must be examined and new theories tested.

At a very basic level, Thomas and Brown distinguish between two methods of knowledge acquisition, which they term explicit and tacit knowledge. Traditionally, explicit knowledge is rooted in the belief that knowledge can be directly transferred from one source to another—for instance, from a teacher to a student or from a book to a reader. The emphasis is put on the content being delivered, with the learner responsible for processing the information and demonstrating that it has been successfully internalized. Tacit knowledge, on the other hand, only emerges from direct experience—from interaction with a

software program, for example. In this case the software doesn't function as a source of content, but rather as an object the user explores, with learning potentially occurring as a result of that experience. I say potentially because there is no guarantee that learning will take place.

To further illustrate this point, consider the challenging task of teaching students to use a complex software program, like Adobe Photoshop. The explicit knowledge model would involve having students read a manual, follow along with an instructor demonstration, or perhaps watch a video tutorial on Adobe's website. By contrast, the tacit model would have students open Photoshop on their computer and begin "playing around" with the interface, exploring menus and buttons, and almost arbitrarily using different tools. At the end of the day, the under the tacit model the student might not have learned "how to use Photoshop," but they will have gained direct experience using several features of the software, which they can build upon during subsequent uses. As Thomas and Brown explain, "In the digital world we learn by doing, watching, and experiencing. Generally, people don't take a class or read books or manuals to learn how to use a web browser or e-mail program. They just start doing it, learning by absorption and making tacit connections" (Thomas and Brown 76). Tacit knowledge, then, cannot be taught—it must be experienced, which means it is not as easy to control or standardize as explicit knowledge. Again, this new understanding of even the most fundamental aspect of education has significant repercussions for all levels of teaching.

1.4 Active and Critical Learning

Like Thomas and Brown, James Paul Gee is highly critical of content-based forms of teaching. An academic discipline or field, he suggests, is not defined by the content it produces, but rather by the source of that content—by a “historically changing set of distinctive social practices” (Gee 235). These social practices are critical to Gee’s theory of semiotic domains, which are defined as “any set of practices that recruits one or more modalities (e.g. oral or written language, images, equations, symbols, sounds, gestures, graphs, artifacts, etc.) to communicate distinctive types of meanings” (233). Understanding communication in this way puts emphasis not on the specific form of interaction or expression, but rather on the reasons for communication. As the foundation for Gee’s work on literacy and videogames, semiotic domains provide a more flexible concept for analyzing how experiences generate knowledge. Importantly, semiotic domains also offer a way to think about learning and literacy as they occur in other mediums besides text.

Within semiotic domains, three types of learning can take place: passive, active, and critical. Passive learning is aligned most closely with content-based approaches, and requires the least involvement on the part of the learner. For active learning, “the learner must, at least unconsciously, understand and operate within the internal and external design grammars of the semiotic domain he or she is learning” (Gee 254). Design grammars are described here as the “principles and patterns” that structure a specific semiotic domain and designate

“what is not acceptable or typical content in a semiotic domain” (Gee 245). Gee offers the example of first person shooter games, which contain specific features (i.e. first-person POV, heads-up displays, intelligent AI, combat themes) that distinguish them from other genres of games; in turn, these features affect the social interaction surrounding this domain, including the language players use, the activities that are valued, and the relationships that are possible.

For active learning to take place, the learner must have basic awareness of these design grammars; for critical learning, however, “the learner must be able consciously to attend to, reflect on, critique, and manipulate those design grammars at a metalevel” (Gee 254). In videogames this means understanding how certain mechanics or design elements affect gameplay and how that information can be used strategically to a player’s advantage. Once again awareness is not enough—learning or thinking at a more substantial level requires action on the part of the learner. While the distinction between explicit and tacit knowledge highlights the different ways knowledge can be transferred, the spectrum of learning Gee identifies within semiotic domains underscores participation and interaction as sources for learning.

1.5 Technogenetic Changes in Education

These challenges to traditional understandings of learning and knowledge are intertwined with and expedited by technological advancement. In *How We Think*, Katherine Hayles describes this as technogenesis, “the idea that humans

and technics have coevolved together” (Hayles 10). For Hayles, “digital media and contemporary technogenesis constitute a complex adaptive system, with the technologies constantly changing as well as bringing about change in those whose lives are enmeshed with them” (Hayles 18). Recognizing this process as a coevolution and a complex adaptive system is important for pedagogical theory because it suggests that constantly changing technology shouldn’t be treated as simply adopting passing trends. In fact, Hayles explains that “contemporary technogenesis is about adaptation, the fit between organisms and their environments, recognizing that both sides of the engagement (humans and technologies) are undergoing coordinated transformations” (81). This emphasis on coadaptation and mutual transformation is important and implies that technology isn’t just a tool we use; I will return to this notion later on. In short, though the majority of new software programs, websites, and devices might never catch on, or quickly become obsolete, those that persist offer opportunities for instructors to reconsider teaching methods given new possibilities.

More specifically, Hayles asserts that emerging technology and new media can offer scholars “theoretical, conceptual, and practical frameworks for critically assessing technogenetic changes and devising strategies to help guide them in socially constructive ways” (Hayles 14). For composition scholars, this means producing critical works about the social, cultural, and pedagogical implications of technology, while also reflecting on how teaching practices promote such technogenetic changes to students. That isn’t to say courses should include

new technology just for the sake of remaining current—in fact, quite the opposite. While pedagogical exploration of emerging software programs and technologies benefits the field as a whole, it's important to consider what rapid adoption of technology teaches students about the values of technology itself. Instructors must be aware of how an assignment or project establishes students' tacit knowledge and builds towards critical learning of specific semiotic domains. Games are, of course, designed to stimulate and engage users, which makes them appealing for educational purposes, particularly considering many students already play games and are likely to be excited by the idea of encountering them in school. While this kind of passion and interest is critical for stimulating tacit learning, games must be introduced into the curriculum for the right reasons. Thomas and Brown offer a good example of games from the problematic explicit knowledge model: a physics teacher, trying to connect with a student who has a passion for basketball, creates “a problem set concerning gravity, force, and acceleration within the context of the sport.” Though this is clearly an attempt to engage the student's interests, “in reality [the teacher] has done little more than cloak a physics problem with a basketball theme.” In this case, the theme has simply changed the presentation of the content, while the method of knowledge acquisition has remained the same.

As an alternative, the authors suggest the physics teacher ask a different question entirely: “What is the best way to shoot a basketball?” (Thomas and Brown 82). Rather than supplying the student with specific expectations, this

open-ended question challenges them to consider the sport more carefully and makes them responsible for what they learn. This kind of student-generated inquiry “creates a motivation to learn and provides a set of constraints that make the learning meaningful” (Thomas and Brown 83). The critical point is that in this scenario the student has been asked to generate questions independently while being challenged to reflect on how their actual experiences playing basketball can help them solve the problem. Rather than just using videogames to disguise content-based teaching, this method both asks students to reflect on their experiences with games and utilizes approaches inspired by the learning that happens with games in order to engage the student.

1.6 Games and Learning

Integrating games into the classroom is hardly a new practice, but it has received renewed attention in recent years as videogaming technologies have rapidly advanced while also becoming more ubiquitous and slightly more accessible. Play, of course, has always been associated with the education of young children, while games have been employed at all levels of teaching in some manner. But, as Max Lieberman notes, “evidence suggests that teachers are focused primarily on the most straightforward implementations of game technology,” which inevitably leans more toward explicit knowledge and active learning. In his article “Four Ways to Teach with Video Games,” Lieberman offers a “basic taxonomy” of methods for teaching games, intended to encourage

further conceptualization and practice amongst instructors in a range of disciplines. The four methods he advocates are Games that Teach Content, Games as Texts, Students Making Games, and Game-Like Motivational Systems. To be certain, each of these methods has both advantages and drawbacks, and for games to truly make an impact on the pedagogical theories of different disciplines, each of these methods (and potentially others not encapsulated by this taxonomy) must be explored. Having said that, my project aims at expanding upon only one of these four, Students Making Games, to the exclusion of the other three. This isn't to say that this is the most important, or even that it is truly possible to cleanly and completely separate these four from each other. But focusing on the creation of games is, I believe, the necessary direction composition studies must move in to establish a theory and practice for integrating games that is both consistent with other movements in the field and recognizes games as a form of composition in and of itself.

While there are a number of significant problems with what Lieberman identifies as the educational rationale for teaching students to create games, his article demonstrates why it is necessary to pursue this topic further, particularly within composition studies. While I will save discussion of game design for my second chapter, I want to briefly examine an issue raised by Lieberman in regard to having students make games: the problem of prior knowledge. “[H]aving students create a game,” he explains, “requires more training in technology and gaming literacy than having them merely play a comparable game.” Furthermore,

“the implementation of this approach requires a greater willingness” on the part of the instructor “to restructure an existing curriculum” (Lieberman). Both of these factors—along with other issues like money, accessibility, and institutional support—prevent more instructors from having their students make games in the classroom. What’s required, then, is a reconceptualization of why it is necessary to teach the creation of games in addition to play and analysis. The goal must be to show how such an approach is already supported by rhetoric and composition scholarship and therefore contributes significantly to ongoing discussions rather than somehow existing separately or even moving in a different direction entirely.

1.7 Meaningful Play

Today, the connection between videogames and writing is not as much of a stretch as it once was. Indeed, the notion that games are an acceptable object for critical analysis put game studies in productive conversations with disciplines that did not traditionally study games. For composition studies, the push has been around for decades, most prominently in the 1990s with the pedagogical application of multi-user dungeons (MUDs) and MUDs, Object-Oriented (MOOs). In their introduction to *High Wired*, Cynthia Haynes and Jan Holmevik loosely define MOOs as the “adaptation and reconception of gaming technology for professional and educational use.” MOOs, they explain, “reinvent the notion of education, and their users reconceive this space to accommodate radically different genres of discourse and pedagogies” (Haynes and Holmevik 2-4).

MOOs are a text-based virtual world where users can interact with one another online in spaces that textually represent realistic places. In her chapter, Haynes states that MOOs “offer a rich virtual (and textual) environment for collaboration,” one that is open and flexible for whatever an instructor and students want to use it for. “The possibilities,” she explains, “are so varied and extensive that once you and your students learn how to achieve such collaborative building and creation, you will want to step up to more advanced skills like MOO programming, holding online events, and symposia” (Haynes and Holmevik 171). MOOs thus offered a productive interconnection between writing, programming, and videogames that offers highly flexible application for the classroom. Students interacted with one another using a mix of writing and basic code, but this interaction is ultimately anchored in play and occasionally design.

In recent years MOOs have largely been replaced by the use of massively multiplayer online (MMO) games, like *World of Warcraft* and *Minecraft*. These virtual environments provide a similar experience, but because they are commercial games, they are connected to realworld discourse communities and offer many opportunities for social and cultural analysis. But the use of such commercial games in the classroom also creates an opportunity to examine the role of the player for producing meaning in games. In “Bringing Commercial Games into The Classroom,” Pilar Lacasa, Laura Méndez and Rut Martínez assert that commercial games allow for “educational opportunities that move these tools towards the immediate goals of those for whom they have been

designed” (Pilar et al. 343). By utilizing popular games that already have established discourse communities, instructors can have students explore the reasons why games like *WoW* are so popular, which in turn can shift the focus from studying games to studying players. In this way, a project centered on a commercial game has the potential to underscore the kinds of meaningful play that engage and motivate players to participate fully in digital-interactive worlds.

The concept of meaningful play is used most notably by Katie Salen and Eric Zimmerman to describe the value inherent in games. “Play,” they explain, “doesn’t just come from the game itself, but from the way that players interact with the game in order to play it.” Meaning isn’t something contained within the game, but rather it is produced as a result of the interaction between the player, the system of the game, and the broader context in which the game is situated (Salen and Zimmerman 33). Furthermore, Kevin Moberly suggests that writing and games are more interwoven than it might initially seem, with writing playing a critical role in the production of meaning within games. “[I]f writing appears to be absent from contemporary computer games,” he says, “it is because these games are written to disguise the fact that their complex symbolic environments are constructed almost entirely through writing” (Moberly 285). Though writing does play a substantial role in the development of games—most notably in the form of scripted dialogue, production notes, and comprehensive game design documents—this kind of writing is largely invisible to the player. However, games require players “to engage in a fundamentally rhetorical process of reading and

writing that is not dissimilar to that which takes place (explicitly and implicitly) in contemporary composition classrooms” (Moberly 285). Just as composition instruction helps students become aware of the critical literacy skills necessary for success in college and in their future careers, a critical awareness of games prepares a player with different “gaming literacies” that enhance the experience and engage the player at a deeper level. Integrating games into the classroom, therefore, can result in a generative overlap between the two seemingly unrelated sets of practices.

As should be clear, a meaningful gaming experience is not characterized by any single aspect of games, but is produced from a confluence of different factors. Because of this, scholarship on games is inherently broad, which necessitates flexible approaches for understanding how meaning can be constructed within a range of game types. Christopher Paul offers such an approach with his concept *wordplay*, described as the intersection of “the words within and surrounding video games, the design of games and society, and the practices of play in games” (Paul 2). In *Wordplay and the Discourse of Video Games*, Paul develops his concept by drawing directly from rhetorical theory. Rhetoric, he explains, provides “a perspective for scholars interested in studying how knowledge and situated truths are established in and surrounding games” by focusing on “the entire discursive environment of gaming” (Paul 6). I will return to this notion of discursive environments again in chapter 3. For now I want to focus on Paul’s suggestion that wordplay combines “the elements of a text that are a

comfortable fit for rhetoric, like words and images” with the “structures and technologies underlying media forms, like design and play” (Paul 12).

Though all of these elements have been the focus of rhetorical scholarship in the past, Paul challenges figures like Ian Bogost by suggesting that scholarship concentrating on only one aspect of videogames is seriously restricted. Meaning within games, he explains, cannot be “limited to the procedures of games, but video games also cannot be reduced to their text or images, as much of the rhetorical analysis that seeks to engage new media tends to do” (Paul 11-12). This more balanced approach, I will argue, applies not only to the analysis of games, but also to teaching with games. Connecting *wordplay* to composition instruction emphasizes the rhetorical formation of meaning in writing and games and, in so doing, establishes a foundation in play, design, and text that challenges instructors to ensure that assignments using games engage students on multiple levels.

1.8 Identity, Player Agency, and Reflection

A challenging aspect of teaching games in the composition classroom is that most students will enter the course not identifying as gamers. Just as all students have different backgrounds and experiences with technology and writing in general, each student will enter the classroom with a unique relationship to games. The point isn't to “convert” students into gamers, or even to make a convincing argument for why games should be important to them, but

rather to develop the broad connections identified by Christopher Paul in his definition of wordplay. Text, play, and design each offer points of connection to students no matter their background or academic interests, but these connections cannot be rushed or forced. However, even if a student doesn't identify as a gamer, we can help them to think like a player—that is, to recognize that playing a game involves reacting to features that have been rhetorically designed to produce certain meanings. If a student understands this by the end of the project, it's likely they have also picked up more complex meanings the instructor could not have intended or predicted.

Encouraging students to recognize their role as players starts with getting them to engage with the game in some capacity. While an instructor might require students to play a game, what students get from that experience is in a sense beyond the instructor's control. It's important to remember, though, that well-made games are designed to persuade players to keep playing. In his analysis of player agency and videogames, John Alberti explains that games are designed with intentional flexibility in order to accommodate different approaches to playing. "The inherent and inescapably interactive nature of gaming," he explains, "complicates questions of who authors and authorizes meaning in a discourse community. Writers/creators of video games necessarily anticipate players who are simultaneously readers and writers, co-authors whose decisions are inscribed within a certain horizon of possibilities but not predictability" (Alberti 266-7). Though meaning in games cannot be wholly predicted or controlled, the

upshot is that there is also no right or wrong way to understand them. To get students to engage with games on even the most basic level, it's necessary to have them build from their own experiences as players through reflection.

Here I want to distinguish between the two theories of reflection originated by Donald Schön and described by M.K. Smith. The first, reflection-in-action, “involves looking to our experiences, connecting with our feelings, and attending to our theories in use” in order to establish “new understandings to inform our actions in the situation that is unfolding.” Reflection-in-action happens in the moment and is contingent on unique situational factors, which means it is impossible to “closely follow established ideas and techniques” to determine how to proceed. The second theory, reflection-on-action, occurs “after the encounter” or outside of the situation and “enables us to spend time exploring why we acted as we did.” A central component of reflection-on-action is the repertoire, or “a collection of images, ideas, examples and actions that [practitioners] can draw upon” to better understand a given situation.

Though we can clearly distinguish between the two theories of reflection, it's important that we challenge students to engage in both because each emphasizes unique and valuable thought-processes. To put it another way: “Reflection requires space in the present and the promise of space in the future” (Smith). Reflection, then, is more than just a trivial part of a project, or even worse, busy work—it represents a significant practice that substantially affects how we approach given situations and what we take from them. Teaching

students to become more aware of these different theories of reflection prepares them to think about the relation between play and design. Traditionally, when students are asked to reflect on play they either react to the quality of the game or focus on their actions and choices. Encouraging students to consider how the design of the game impacts play allows them to draw connections between their direct experiences playing (reflection-in-action) as well as what they can take from that experience and apply to other situations (reflection-on-action). This emphasizes what Alberti calls the “nexus between production and consumption, between creation and reception” (Alberti 261). With this in mind, my goal was to develop an assignment where students experimented with the role of both player and designer in an assignment that mimicked collaborative design processes of modern game developers.

At the beginning of my *Portal 2* unit I deliberately provided very little preface to students about the assignment they will be completing or the game we will play; instead I asked them to simply grab a Macbook Pro, load the game, and begin playing. One reason *Portal 2* works so well in the classroom is that it is a remarkable example of intuitive design. The game has no formal tutorial so players are thrown into gameplay knowing little about what they are actually doing. Over the course of the first level the gameplay forces players to learn how to perform basic actions within the game. It progressively introduces them to different game elements and then places them in increasingly complex situations that requires them to draw on everything they’ve encountered up to that point.

For new players, this lack of explicit context can be extremely frustrating. As such, while students played this first level I circulated throughout the room ready to answer questions.

On one particular occasion a visibly-frustrated student called me over to help her with the second puzzle. I asked her to describe the situation: she was standing on one side of a large gap, on the other side was the exit door she needed to reach. The gap was too large for her to jump, and if she fell in, the ledge was too high for her to climb. She had the portal gun, she could shoot a blue portal, and there was an orange portal fixed to the wall behind her. This early puzzle teaches players the basic mechanics of the game: shoot portals to access parts of the level that would otherwise be physically impossible for you to reach. As she described the level I listened and then asked her to think about what the game was trying to tell her. Though she didn't know how to solve the puzzle, the game was presenting all the information she needed to understand the problem. She was only stuck because she wasn't yet versed in the design grammars of the game and had no explicit knowledge to help her. By describing the situation out loud she was reconsidering all of the resources available at her disposal—essentially, she was “reading” the game in an attempt to understand what the designer was communicating to her. Once she figured out what to do, she quickly moved through the rest of the level and by the end of the class period had progressed significantly through the game.

1.9 Composing Games

The above example illustrates the importance of providing students time to explore games at their own pace. Instead of providing specific criteria I expected students to reach, I posted prompts that invited them to share via blog post what they felt they had learned. For example, the first prompt asked students to describe how their approach to playing the game changed between the first and second time. These blog posts were always illuminating and often surprising, with students demonstrating a high-level of reflexive, critical thinking and an emerging tacit knowledge of *Portal 2*. Ultimately, this project only involved two days playing the single-player campaign. Though playing *Portal 2* only accounted for a small part of the unit, it was a critical stage that challenged students to build gaming literacies, develop tacit knowledge, experiment with active learning, and reflect on experiences that, for many, were quite unfamiliar.

The importance of this stage for the overall project cannot be overstated: without prior knowledge of *Portal 2*, the *Puzzle Maker* is significantly harder to use. Just as *Portal 2* relies on the tacit knowledge players develop during early levels, the *Puzzle Maker* assumes players already have engaged in active learning from playing *Portal 2*. Recalling Gee's theory of semiotic domains, when students play *Portal 2* they are essentially learning the design grammars of the game, which they will then have to directly manipulate when using the *Puzzle Maker*. As this chapter has made clear, play is a complex activity comprised of experiential learning, the development of active and critical thinking, the

application of rhetorical awareness, and the deliberate construction of meaning through reflection. It's important to note that these occur when playing most videogames regardless of context; within a composition course, however, the learning, thinking, and agency of videogames can be productively paired with practices traditionally valued by Universities.

Toward this goal, my second chapter will build on these ideas, focusing more specifically on how the skills and knowledge gained through play can transfer to composition and design. To do so I will look specifically at theories of digital literacy, production, and rhetorical approaches to new media. The goal is to identify how rhetorical design skills and literacy practices developed through using the *Puzzle Maker* can both reinforce the value of teaching game design in composition and demonstrate the potential for these skills to transfer beyond the classroom. In my third chapter I will look more critically at the learning environments afforded by games, paying particular attention to game-based composition as a craft that encompasses both discursive environments and recursive space. I will then introduce my concept *gamcraft*, which is meant to provide a flexible and useful view of gaming within composition pedagogy and theory. Finally, in the fourth chapter I will further elaborate on *gamecraft* by describing several values inherent to games that make them particularly useful and effective as the basis for a new philosophy of composition. My goal isn't to provide a rigid, ruled-based system, but rather to offer a flexible and theoretically evolving set of values.

CHAPTER 2. RHETORICAL DESIGN AND THE TRANSFERAL OF LITERACY PRACTICES

2.1 Videogames as Learning Systems

The connection between videogames and writing becomes stronger when the entire game design process is taken into account, rather than focusing exclusively on just the finished product. As Alice Robison notes, when “used, played, and designed well, games are good for composition and rhetoric research because of their ability to inspire a ‘constellation of literacy practices’” (Robison 360). Recognizing this constellation of literacy practices requires composition scholars acknowledge videogames as more than just entertainment consumed by players and appropriated by teachers. If my first chapter identified the broader values inherent to playing games, then this chapter seeks to identify what composition scholars can learn from studying how games are designed as well as how players interact with them. The inspiration for this chapter comes from an observation Robison makes in her introduction: “video game designers and developers,” she says, “discuss and approach their design processes in many of the same ways writing teachers do” (Robison 360). This suggests that games aren’t transformed into effective models of learning and teaching when

placed in educational contexts, but rather, good games have been designed deliberately with such principles in mind from the very beginning.

Instead of transferring effective game mechanics (like experience, leveling, or leader boards) directly to the classroom, composition instructors should study games to understand how the underlying theories that make such mechanics effective can improve learning outside of games. The best way to do this, I will argue, is to directly involve our students in the process. In what follows I will demonstrate how teaching a rhetorical approach to game design can improve students' understanding of composition while also allowing them to explore how they respond to and interact with technology in general. With this in mind, the goal of my *Portal 2* assignment was not to teach with games, or even to teach students how to design games, but to help students become aware of the rhetorical dimensions of game design. As a result, I was less concerned with whether or not students created a "good" level and more with their ability to collaborate, reflect on their choices, and forge connections between play, design, and writing.

Understanding the potential value of having students create games requires first reconsidering what we mean by design in general. As Salen and Zimmerman define it, "Design is the process by which a designer creates a context to be encountered by a participant, from which meaning emerges" (41). While this definition is deliberately vague, it emphasizes deliberate creation of not only the product but also interactions between the product and the user and any

meaning produced as a result. Another way to think of design is as “an idea, a knowledge, a practice, a process, a product, or even a way-of-being” (Salen and Zimmerman 40). While game design is obviously a specific subfield of computer or digital design, it also comes with its own theoretical and conceptual methods. As Keith Burgun explains, “When we design a game, we not only have to plan what kinds of actions will be possible in a game, but also all of the types of interactions that could take place” (19). Both general definitions of design and those more specific to game design indicate just how difficult it is to carefully account for all the perspectives from which design can be understood.

Of course, how we define game design on a conceptual level requires first determining what exactly a game is. For the sake of simplicity and consistency with my previous chapter, I want to use the definition of games that Burgun provides in *Game Design Theory*: “The primary and direct value that games have for us,” he says, “is that they teach us how to learn” (13). Quite simply, if games are systems for learning, then game design is the deliberate construction of such systems. The purpose of including game design in the first-year composition course is, first, to have students become aware of the skills required to play games, and second, to challenge them to put those skills into practice by creating original learning systems that can be played and understood by a real audience.

2.2 Developing Literacy Practices Through Production

To be able to create their own levels of a game, students need to first become aware of how the constellation of literacy practices inherent to

videogames are rhetorically constructed to create a specific gaming experience. Such literacy practices, James Paul Gee argues, constitute “a new literacy” that is fundamentally different than traditional definitions of literacy. Rather than just reading and writing, these new literacies encompass a much broader range of activities and apply to the various forms of media central to communication and interaction today (Gee 229). As already described in chapter 1, these new literacies are best understood as semiotic domains, or sets of social practices that produce meaning through different modalities. Importantly, Gee’s notion of semiotic domains centers on his belief that these new literacies extend beyond reading and writing. “While you don’t need to be able to enact a particular social practice... to be able to understand texts from or about that social practice, you can potentially give deeper meanings to those texts if you can.” What exactly Gee means by “enacting a social practice” is somewhat unclear here, but he clarifies this at least partially when he states that “producers (people who can actually engage in a social practice) potentially make better consumers (people who can read or understand texts from or about the social practice)” (231). In short, the direct application of literacy skills through production can potentially enhance the way a user consumes or interacts with artifacts in that same semiotic domain.

In an interesting critique of Gee, Jonathan Alexander suggests that missing from this theory of literacy as semiotic domains is any emphasis on “what students themselves perceive as significant learning and literacy experiences and developments as they game” (40). While Alexander uses this

primarily to argue that more emphasis should be placed on understanding gamer discourse communities, this criticism also emphasizes literacies as actual practices that exist primarily outside of educational contexts. While Gee does discuss the potential for affinity groups to “encourage metareflective thinking about design,” he focuses on learning more broadly than Alexander (261). The point of both metareflective and student-centered approaches is that they recognize the range of literacy practices students bring with them into the classroom. If this is done, Alexander asserts, then “our approach to writing instruction may substantively shift from ‘introducing’ students to varieties of literate and rhetorical practice to exploring and reflecting with them the kinds of emerging literate practices that may be personally, professionally, and critically useful to them” (Alexander 37). This also requires recognizing that, for some students at least, the value of a project about videogames may actually have nothing at all to do with videogames. Thus making students aware of the literacy practices necessary for game design involves both identifying those practices inherent to games and encouraging students to reflection on the practices that are most interest or relevant to them.

2.3 The Literacy Practices of Videogames

To get a sense of how the direct application of literacy skills from play to design might work, I want to examine the system of game literacies Alexander establishes in his article “Gaming, Student Literacies, and the Composition Classroom.” Alexander outlines five basic literacy practices of games, which he

identifies as literacy reflexivity, trans-literacies, collaborative writing, multicultural literacies, and critical literacies. For my purposes, I will focus specifically on trans-literacies and critical literacies, which address both the transfer of literacy practices between contexts and the examination of literacies at the meta-reflective level. Trans-literacies refer to the development of “connections between the kinds of writing [students] are doing in the game and the kinds of writing they may find themselves doing both in other courses and in different professional environments” (Alexander 54). Importantly, trans-literacies both enhance the perceived value of games for those who don’t already identify as gamers and challenge assumptions about the practices that are considered to be within the semiotic domain of composition.

Critical literacies, in contrast, involve “helping students increase their reflective understanding of their literacy practices in one mode” with the ultimate goal of encouraging them “to make connections across modes” (Alexander 59). We are teaching students to compose games in order to identify those literacy practices that are both instrumental to game design and apply to other technologies they might encounter in other college courses or in their future careers. While it is important that students understand the literacy practices required for specific games encountered in a particular class, it’s ultimately more valuable to help them recognize that these skills can be generalized to a wide variety of situations. Alexander is careful to acknowledge that our responsibility as instructors isn’t to provide critical awareness to students (because they already have it to some degree) but instead “to develop their critical skills, putting

multiple texts, ideas, and viewpoints into play for them and helping them navigate among them and negotiate with them a reflection on their own experiences with gaming technologies” (58-9). Therefore, the instructor isn’t responsible for teaching literacy skills so much as for helping students get the most out of their experiences through reflection, discussion, and application of different skills across modes and contexts.

For an example of how this can be done, I want to look at both the construction of literacy practices in *Portal 2* and the experiences students had transferring these skills to their own original levels. As with most contemporary videogame developers, the designers of *Portal 2* tried to integrate the tutorial into actual gameplay rather than including it as a separate game mode. As a result, the basic skills necessary for playing the game—shooting the portal gun, pressing a button, using momentum to reach high platforms, etc.—are first introduced as the sole mechanic of simple puzzles and then later mixed together to produce puzzles of increasing complexity. The player is always provided the knowledge necessary to solve each puzzle, but the real challenge of *Portal 2* comes from identifying which of the available skills should be applied to solve a given problem. As a learning system, *Portal 2* is particularly impressive because it completely disguises the fact that it is, first and foremost, a learning system. In a sense, to progress to the next level the only objective the player must complete is to demonstrate they understand how to transfer skills across different in-game situations. In many ways, this is similar to Gee’s notion of design grammars, which I defined in chapter 1 as the “principles and patterns” that determine

acceptable content within a semiotic domain (Gee 245). These design grammars help the developers stay consistent as they determine the objectives, feedback system, and motivation for their game. That being said, it should be evident that identifying and exploiting these design grammars is a particularly effective strategy for succeeding at a game, as happens with metagaming in *League of Legends* or theorycrafting in *World of Warcraft*. While understanding the design grammars that make a game like *Portal 2* an effective learning system is not necessary to play the game, if users are to move from playing the game to designing an effective original level, they must be able to both identify and apply these design grammars on their own.

For the second part of my assignment, students worked in small groups to create an original puzzle using one particular object available in the *Puzzle Maker*. This meant that one group was assigned the cube and switch, another the light bridge, a third the laser relay, etc. The catch was they had to record images and video from their design process which they would later use to create a video tutorial showing an unfamiliar audience how to use the *Puzzle Maker* in order to create their type of level. My reasoning for restricting the type of level each group could make was threefold: first, I wanted to discourage “kitchen sink”-style levels comprised of every available object; second, I wanted groups to really spend time considering the features inherent to specific types of puzzles; and third, I wanted each group to produce their own “ideal version” of the level, which would require substantial discussion, experimentation, and reflection.

Interestingly, when students began working in small groups to create their levels, one question came up without my prompting: How much does the intended player know? Each group had to determine the types of players their level was meant for, which meant they had to consider how to indicate difficulty or proficiency in their levels. This prompted some interesting questions: What exactly makes a hard level hard and an easy level easy? How do game designers communicate this information to players? In other words, where in the process of the literacy development of the player is this level situated? Such questions arose as students discussed how to represent their design process in their video tutorials. At this critical step a few things happened: first, students encountered the boundary between active learning (awareness of design grammars) and critical learning (ability to manipulate those design grammars); second, they began to navigate the trans- and critical literacies necessary to use the *Puzzle Maker*; and finally, they began to recognize the rhetorical dimensions of design and started negotiating such considerations within their own levels. This is important because it shows students engaging with the *Puzzle Maker* as both an extension of their experiences with *Portal 2* and as a creation entirely of their own making.

2.4 A Higher Level of Play

Echoing Alexander's call for composition instructors to engage their students more directly in literacy research, Stuart Moulthrop argues that an increased emphasis placed on practical engagement with games in the

classroom necessitates a shift in the roles played by both students and instructors. Central to Moulthrop's view is the notion of "creative involvement," which he takes from the work of game scholar Espen Aarseth, who argues that "[p]laying is integral, not coincidental" to the gaming experience, which means that understanding the creative involvement of the player "is a necessary ingredient in the use of games" beyond the purpose of just entertainment (Aarseth qtd. in Moulthrop). Creative involvement in this sense refers to the contribution a player makes to the game through their input and subsequent response to the game's output. Creative involvement, Moulthrop explains, "augurs a new conception of scholarship and critical response... built on extensive practical engagement with games and other cybertexts." Though he acknowledges that such a view of play is important, Moulthrop is critical of Aarseth's notion that this creative involvement should apply only to play. Focusing on play, he argues, "preserves the old separation of media, whereby all things not of the letter must be exchanged for letters in order to enter the system of learning." Applying this more traditional understanding of literacy to videogames results in a separation between reflection and play, one where the creative involvement of students means they "play games, then... write about the experience" (Moulthrop). This, Moulthrop contests, involves essentially "exporting the ethos of writing to new media" rather than identifying how games and other media can fundamentally shift our approach to writing.

Moulthrop's solution is to rethink the forms of production that are taught in the classroom. If "an alternation of play and reflection is not enough," he says,

then it becomes necessary to “play on a higher level, which means that we must build” (Moulthrop). For him this means adopting “a substantial, productive engagement with code, either directly or at a minimal remove.” While I believe there is a lot of potential for teaching the programming and design of games in the composition classroom, it seems to me that composition scholars are still developing the conceptual framework necessary to do so without either falling into the binary of traditional literacy or placing too much emphasis on technology over rhetorical principles or other skills taught in first-year composition. As such, we must pursue this by focusing more generally on building or making rather than programming.

Toward this direction Moulthrop, offers an alternative concept of writing and play—what he terms “cybernetic textuality”—that fits particularly well with the views of learning and literacy examined here so far. Expanding writing to include programming, media design, and building, cybernetic textuality allows for an “extended literacy [that] directly connects writing with play” by both revealing “the control structures that govern our experience of play” and, more importantly, making it possible for “those structures themselves [to] become objects of play” (Moulthrop). Though a simplified and opaque design tool like the *Puzzle Maker* might be considered less practical than teaching actual programming skills, the fact that students are essentially creating their own version of a commercial videogame demonstrates that cybernetic textuality is not entirely dependent on a high level of technical knowledge or access to advanced software. When students transfer the knowledge they gained from playing *Portal 2* to building

levels using the *Puzzle Maker* they are demonstrating an ability to play with both the design and conceptual aspects of the game. Teaching even the most basic form of game creation, then, reveals the rhetorical construction of videogames and demonstrates that, in addition to being a virtual world and learning system, the *Puzzle Maker* is also a virtual composing space.

One of the distinctive features of the *Puzzle Maker* is that familiarity with the original game is integral to a player's ability to create their own levels. As a stand-alone piece of software, the *Puzzle Maker* would likely require a significant amount of training for a player to use if they had not played *Portal* or *Portal 2* before. As a virtual composing space, the extremely minimal menus and mostly-empty design space players first encounter when they open the *Puzzle Maker* is one of almost limitless possibility. When first opened, the *Puzzle Maker* presents users with an empty, three-dimensional gridded box containing only an entrance and exit door. Similarly, the primary interface of the *Puzzle Maker* is a simple display that contains only two basic menus: the top menu, which contains buttons for building and testing the chambers as well as undoing or redoing actions; and the side menu, which contains all of the items the player can add into the room, such as switches, cubes, platforms, stairs, lasers, and other elements familiar to players of *Portal 2*.

By presenting users with pre-defined space rather than an entirely blank window, the *Puzzle Maker* encourages playful exploration of the game itself, but also invites experimentation within the individual room a player is designing. This spatial component of the game is, at interface level, an abstraction of more

complicated programming processes happening that are not visible to the player. As Yasser Malaika noted during Valve's Games For Change presentation, "Under the hood it's using the same tools that we use to make the game, but all of the irrelevant bits have been hidden" (GamesForChange). The differences between Hammer and the *Puzzle Maker* are striking: the former is quite clearly a piece of design software, while the latter is most definitely a game.

The layout of Hammer bares striking resemblance to Adobe products like Photoshop and InDesign and features similar menus, toolbars, and drop-down item lists. The *Puzzle Maker*, on the other hand, looks nothing like traditional design software: the menus and toolbars are very simple, and while more complicated menus featuring drop-down lists and more advanced options can be accessed, they are not built into the main interface. Again, almost all of the technical components of the *Puzzle Maker* are hidden beneath the surface. As Malaika and Redd explained, this was all intentional: after assessing the value of using the Hammer editor to teach elementary and middle school students to design levels, Valve decided to streamline the experience and repackage it as a game, rather than design software (GamesForChange). The result is an experience that is much less intimidating than Hammer, even if the experience is ultimately very different than what we might describe as traditional game design.

2.5 From Digital Literacy to Electracy

While it is to Valve's advantage to make the *Puzzle Maker* accessible to as wide a range of users as possible, this reimagining of design as a more playful

and less technical process is intriguing. If you remove the technical knowledge from design, what is left? In his book *Inter/vention*, Jan Holmevik approaches design from the perspective of a rhetorical scholar, focusing specifically on the problem of how to think about design as a form of composition without privileging the technical or relying on concepts related to traditional literacies. Building directly from Moulthrop's work, Holmevik warns that the very concept of "digital literacies" results in "new digital media forms as subjugated practices to the old print media discourses." While writing is not likely to diminish in importance any time soon, Holmevik argues that composition scholars still need to begin reconsidering literacy as a more complex practice (4). To do so, he claims, "we must understand new media expressions and digital experiences not simply as more technologically advanced forms of 'writing' that can be understood and analyzed as 'texts' but as artifacts in their own right with their own discrete and generative impacts on the creation of knowledge in our time" (Holmevik 4). To identify the "generative impacts" of artifacts means not only to understand how such information or objects are designed and produced, but also to explore the ways in which these artifacts disrupt, enhance, or otherwise alter interaction in different contexts.

As a replacement for digital literacy, Holmevik embraces "electracy," a term first developed by Gergory Ulmer "to describe and capture the skills and competencies that are required to master the new media-rich world in which we live" (3). Importantly, Ulmer developed electracy from his theory of heuristics, "the branch of logic that treats the art of discovery or invention" (Holmevik 57). A

thorough analysis of Ulmer is not the purpose of this article; instead, I want to focus on how Holmevik connects Ulmer's work on invention with play and design. A key part of heuristics, in Ulmer's own words, is to "use the method that I am inventing while I am inventing it" (Ulmer qtd. in Holmevik 57). According to Holmevik, "Ulmer's notion of invention [is] a conductive logic that follows from play," which means that, like Moulthrop's notion of cybernetic textuality, electracy promotes a view of design as an inherently playful act. To put it another way: "to play means to invent by heuristic means" (Holmevik 6). In a sense, playing becomes a form of invention that allows us to better understand how, exactly, invention works. Holmevik continues: "Play, Ulmer contends, is the action that bestows electracy on the human agent" (Holmevik 9). Again, play isn't just a form of analysis required prior to writing, but rather the gradual process of learning so-called "electrate practices" through direct application of those very practices.

This, I believe, is the primary difference between rhetorical and technical approaches to teaching design: the former recognizes play and experiential learning as the invention of electracy and the application of broadly transferrable practices, while the latter emphasizes direct transmission of the skills or knowledge relevant to a specific piece of software or technology. In the previous chapter I briefly discussed Holmevik's work with Cynthia Haynes on MOOs as an example of the intersection between writing, education, and videogames. In *Inter/vention*, Holmevik makes this connection more explicit, linking his more recent work with electracy and heuristics back to MOOs. The purpose of integrating MOOs into the classroom, Holmevik explains, was to

create a new type of learning environment that would facilitate collaboration, encourage communication, stimulate student interest in reading and writing, transcend geographical and cultural barriers, be a fun and creative place to work and socialize, and... provide a space in which to conduct as well as present collaborative research and writing (120).

Through MOOs, composition scholars like Holmes and Haynes explicitly connected games, design, and writing in a way that, I argue, has established the foundation necessary for other approaches, including my work with the *Puzzle Maker*. While the application of basic programming skills necessary to use MOOs makes it a very different experience than using the *Puzzle Maker*, it still emphasizes the development of students' electracy practices through direct experience, metareflection, and collaboration. Instructors, then, can help students become aware of their own electracy agency "when we intervene in technologies as a means of reimagining education" (Holmevik 135). In this sense, the inventive aspect of pedagogy design is just as crucial as the design work completed by our students. I will return to this notion again in chapter 4.

2.6 Responding to Design Artifacts

In the remainder of this chapter I want to consider the broader value that studying rhetorical design has for students in the first-year composition classroom. As explained in the previous section, electracy implies a deeper level of awareness to the processes and methods used in production, but it also

focuses more explicitly on the contexts, objects, and subjects of invention. That is to say, while literacy tends to focus solely on processes and products, electracy opens the practices of invention and production further. Richard Marback hints at this when he claims that “Artifacts of design are arguments in and of themselves” (402). Rather than simple objects that exist only for the purposes we use for them, Marback suggests the connection people have to design artifacts is, to some extent, beyond their control:

We interact with them. They are real things in the world.... They populate our world and as such make real claims on us. We handle them and consider them. They appeal to our sensations and to our emotions. They evoke our ability to respond and we respond with varying degrees of willfulness (Marback 402).

A crucial part of teaching design, then, is teaching students to become aware of how they respond to the design artifacts with which they interact. Rather than engaging design at the level of analysis or critique, this requires a more interactive and involved approach. Echoing the language Ulmer and Holmevik use to describe electracy invention, Marback suggests that design in the composition classroom should involve “students as designers in the act of shaping their responses to their designs as they shape the artifact of design through their responses to it” (417). Put more simply, Marback believes teaching students how to think about design is just as important as teaching them how to design.

To get a better sense of how to encourage electrated practices and rhetorical awareness in assignments that use games, I want to turn to the work of Jennifer Bay and Thomas Rickert. Though they don't deal with games, they propose a theory of new media that better accounts for how technology affects the ways in which people interact with the world around them—which, of course, has important implications for videogames. More specifically, Bay and Rickert examine the interrelation of technology and reality by drawing from Martin Heidegger's concept of dwelling, described as "a way of developing a way of life—or better, a mode of being—that grants and cultivates the affordances of things." Dwelling, they argue, "will become of ever greater importance as ubiquitous computing advances" and as "[d]igital, interactive, and often invisible technologies are slowly permeating our ambient environs" (Bay and Rickert 122). This is done primarily through immersion and interactivity, two models utilized by both new media studies and game studies to explain how people respond to and use design artifacts.

2.7 Immersion and Interactivity

On the surface, immersion and interactivity both explain how a user connects to a design artifact, whether that is a cell phone, a website, a software program, or a videogame. Immersion implies an experience wherein the user becomes thoroughly engrossed in whatever activity they are engaging in; interactivity, on the other hand, suggests that the user is connected to more than one activity and, most importantly, is aware of his or her ability to switch between

activities. According to Bay and Rickert, immersion is traditionally “associated with the idea that a reader—a literary reading subject—divorces him or herself from reality to fully experience an object such as a piece of literature” (Bay and Rickert 127). Immersion, then, is inherently connected to literary studies and, more specifically, with hermeneutics—the study of interpretation. Much of new media theory, Bay and Rickert suggest, is based in a literary, hermeneutic view of immersion that emphasizes a human-centered understanding of technology. Such a view is in contrast to Ulmer’s theory of heuristics and does not adequately account for the interaction between users and aspects of technology beyond human control (i.e. environment, social interaction, access, skill level, etc.) but which still directly affect the way we think about, respond to, and ultimately use different technologies.

Like Bay and Rickert, game theorist Petri Lankoski argues that the emphasis placed on immersion is problematic because it allows for only one way of understanding how players relate with videogames. Within games studies, immersion describes a relation between the player and the game, one where the player is put “in the shoes of a [player character] and... experience[s] the game world from the point of view of that character.” While this is sufficient for some types of games, this theory is certainly not flexible enough to account for the wide range of games being produced today. Immersion, Lankoski argues, “does not seem to explain a player’s attachment to every game or even apply to the different aspects of the player’s attachment throughout some games.” In short, “Immersion cannot address why games... engage the player” (Lankoski 293).

Engagement, the concept Lankoski suggests should replace immersion, allows for a more complex connection between the player and the game. Importantly, engagement acknowledges the player's identity and their participation within the game, but also the role the game itself plays as a designed object meant to illicit certain reactions.

If immersion separates the user from the world around them, then engagement and interactivity suggest an experience where the user is more aware of their own agency, the designed-nature of the product they are using, and the broader world around them. For Bay and Rickert, the distinction between immersion and interactivity is not just an issue of definition, but rather a fundamental disparity between two increasingly divergent strains of thought on new media. As composition scholars, they note that "what we... think of as human communication... has evolved to a new sense with the young generation" (Bay and Rickert 136). Immersion and interactivity are increasingly important considerations, particularly given the rapid changes in learning suggested by composition scholars like Bay and Rickert as well as education theorists like Thomas and Brown and literacy specialists like Gee. "Ultimately," Bay and Rickert state, "the immersive... will inevitably show up differently to those whose world is digital-interactive, and new media theory needs to be able to grapple with this problem at a fundamental level" (Bay and Rickert 127). The connection to digital games becomes even more important considering that a growing number of those people who live in the "digital-interactive world" engage with this world primarily through videogames on computers, consoles, or other devices.

How, then, can we use such ideas to change how we teach with videogames? For Bay and Rickert, the answer lies again with Heidegger's notion of dwelling. It's important, they explain, "to reconsider how digital media—how digital things—dwell with us from a nonhermeneutic perspective" (Bay and Rickert 127). That is to say, we need to become more aware of the connections we have with technology, connections that are beyond our ability to understand or analyze and which affect us on a level deeper than our immediate awareness. Ultimately, "this idea of interactivity marks the dividing line between the rhetorical and the hermeneutic" such that "if new media is characterized by interactivity, then such interactivity must be fundamentally rhetorical" (Bay and Rickert 127-8). Bay and Rickert ultimately describe this rhetorical interactivity as "not just a dwelling *in* but a dwelling *with* whereby active components of care and concern are gathered across and through (new media) things" (Bay and Rickert 128). To "dwell in" technology is to only understand it from a single perspective as it pertains directly to us; to "dwell with" technology, however, is to realize that we are always affected by our use of different technologies, and as such we can never fully separate ourselves from our various interconnections and interactions.

2.8 Connecting to the Digital-Interactive World

In short, it's not enough to analyze games as artifacts somehow separate from users, to study how players react to games in isolation from design considerations, or even to study aspects of games that can be extrapolated to other contexts. Instead, we must study how videogames are designed to create a

specific connection with players—how they encourage players to “dwell with” them. A player who is able to achieve this “dwelling with” becomes a more rhetorically aware participant in the broader experience afforded by games. For composition scholars, then, this notion of dwelling with technology allows us to move past some of the problematic aspects of recent approaches for teaching with games.

Traditional approaches to teaching technology and videogames are based in ways of thinking and perceiving the world that are fundamentally at odds with the practices and activities engaged in by students or even the next generation of instructors and faculty. Rather than analysis and reflection as the precursor to writing, we must move closer toward a view of analysis and reflection as concurrent with design and invention. We must also recognize that games are not just virtual worlds comprised of characters and narratives that immerse us, but also digital-interactive composing environments that allow players to actually engage in and respond to writing and design rather than just interacting with the end results. In the end, this is what makes *Portal 2* and the *Puzzle Maker* such an effective tool for the classroom. In the next chapter, I will expand on the idea of virtual composing environments by connecting my work with the *Puzzle Maker* to recent scholarship on learning environments, spatial approaches to games and composition, and theories that position craft, rather than design, as the most effective model for teaching a digital approach to rhetoric and writing in the composition classroom.

CHAPTER 3. CRAFTING GAMES WITHIN DISCURSIVE ENVIRONMENTS AND RECURSIVE SPACE

3.1 Videogames, Space, and Environments

In Chapter Two I established game design as the construction of interactive learning systems, focusing specifically on the development of rhetorical design and literacy skills. In this chapter I want to return to this idea of learning systems with the goal of exploring how concepts of learning and teaching found in videogames can inform how we think about game design as a digital and spatial method of composition. I want to start by looking at Alice Robison's definition of game design, which relies on a notion of space: "[M]aking a game," she explains, "involves creating a learning space that has a determined beginning and end. The goal is to move players from point A to point B while engaging them in increasingly difficult tasks and, at the same time, allow them to explore several spaces, problems, and puzzles as they do so" (Robison 361). Learning spaces, according to Robison, are constricted, goal-oriented, and inquiry-based, with players progressing through a series of linear challenges but still free to explore and experiment as they go.

This final point is critical for understanding videogames as learning spaces. As Robison explains further, "game designers and developers must give players enough agency to solve complex problems on their own but at the same time

help players build upon their knowledge of the game and play space so that they can succeed with the goals presented” (Robison 361). The learning space of videogames is thus informed equally by the interests of both the game designer and the player/learner. As I argued in the previous chapters, the use of games in the composition classroom must involve design at even the most basic level; this means, of course, that the learning spaces of games must also be recognized as composing spaces.

Based on my analysis of literacy and game design in chapter 2, I want to suggest that composition studies still requires the language necessary to discuss videogames as composing spaces and design as a unique form of composition without relying on terms and concepts associated with traditional literacies. At the end of this chapter I will introduce a new concept I call *gamecraft*, which I believe pushes the conversation about the value of games in composition further. But before I get to this it's necessary to consider two existing models for understanding videogames from a rhetorical perspective: recursive space and discursive environments. At the most basic level, recursive space refers to the interaction between the input of the player and the output of a videogame; discursive environments, on the other hand, describe the range of factors (texts, technologies, materials, social structures, relationships, etc.) that are not inherent to a videogame but which directly affect the gaming experience.

To effectively integrate game creation into composition in a way consistent with the concepts discussed in my previous chapters requires developing play and design as a pedagogical praxis. For this to happen, we must make students

aware that the recursive space of all games—including those created by students themselves—are always contained by, intersecting with, changing, and being changed by their discursive environments. In the remainder of this chapter I will more fully develop the concepts of recursive space and discursive environments while pulling from rhetorical theory, game studies, and notions of writing as craft in order to explain why a spatial view of composition and game design is necessary. Finally in chapter four I will explain how I see *gamecraft* fitting into composition theory in general and then outline eight values I noticed in my own pedagogy that I believe are critical for integrating *gamecraft* into a first-year composition course.

3.2 Spatial Composition

In the second chapter of his influential book *Postcomposition*, Sidney Dobrin argues that the future of composition studies must involve an increased emphasis on space. In doing so, he seeks to disrupt “the traditional sense of writing as temporal in favor of a spatial understanding of writing, of the act of writing, of the function of writing, and, in turn, of a spatial conception of the discipline of composition studies” (Dobrin 30). While Dobrin takes an extremely broad approach to discussing space, I will focus more specifically on space and the act of writing. One major critique Dobrin levels against current composition scholarship is the “minimal attention to writing as an object of study” and the treatment of space exclusively through “metaphors that can be employed to better articulate the relationships between student-subjects and the space they

inhabit” (33). Dobrin’s definition of space as it pertains to writing is illuminating: Space, he explains, “is yet-to-be written. It is potential; it is imagination; it is the possibility and means of every discourse to disrupt every discourse, to disrupt its own discourse. Space is yet-to-be written because space has not (yet) been given meaning; it awaits occupation” (41). Such a view of space suggests the increased importance that design software (including programming as well as WYSIWYG editors) holds for composition. Dobrin’s view of space is particularly interesting when juxtaposed with Jan Holmevik’s description of the academic MOO, *LinguaMOO*, which he refers to “as a site for interaction and invention of electrated practices in textual digital space” (135).

As should be clear, the view of composition Dobrin presents lends itself particularly well to digital composition. Returning to his critique of subjectivity, Dobrin states that “the very ideas of subjectivity and writing subjects require critique in light of the current hyper-circulatory, networked condition of writing” (57). Circulation within networks has substantially changed the way people write and the approaches many composition instructors take in their classroom. With the prominence placed on new media, writing assignments increasingly involve blogs, template-based web design, Wikis, and social networking sites like Tumblr, Twitter, or Pinterest, among others. Student writing has become increasingly digital and more directed towards a broad, public audience than in the past. This emphasis on the circulation of writing, Dobrin explains, “shifts the focus of writing away from the producer of writing to the writing itself and the systems in which it circulates” (58). Digital learning systems, including the education initiatives that

Entertainment Arts (EA) and Valve have introduced based on *Portal 2* and *SimCity*, are indicative of this shift.

Both Teach with Portals and EA's SimCityEDU are based on commercial videogames, but rather than focusing on entertainment or play, both involve the creation of the games themselves. Furthermore, both learning systems also prominently feature a community component, which includes the ability for students to share designs with other users and for instructors to post discussions on forums, seek help on message boards, and submit their lesson plans for use by other instructors. If the goal is, as Dobrin suggests, to privilege writing and circulation over the subjectivity of students as writers, then approaches like those offered by Teach with Portals and SimCityEDU are particularly noteworthy because they emphasize interaction and invention as identified by Holmevik.

3.3 Theorizing Environments

Similar notions of space have become increasingly important to discussions of learning and education over the last decade. Douglas Thomas and John Seely Brown introduce the new culture of learning as a model indicative of how the current generation of college and high school students think and learn—but importantly, not how they are currently being taught. Learning, Thomas and Brown argue, “should be viewed in terms of an environment...where the context in which learning happens, the boundaries that define it, and the students, teachers, and information within it all coexists and shape each other in a mutually reinforcing way” (Thomas and Brown 35). In the digital age, they argue, most

learning takes place at the intersection between two elements of learning: information networks and “bounded environments of experimentation,” or enclosed systems that contain rules, constraints, and formal roles, but allow participants considerable room to explore and choose what they want to learn.

While the network and the bounded environment overlap and intersect in interesting ways, it takes action on the part of a participant within this system to convert this information into learning. That action, according to Thomas and Brown, is play, which “fuses the two elements of learning” leading to what they describe as the new culture of learning (116-7). Play, as they define it, is “the tensions between the rules of the game and the freedom to act within those rules.” Play is not a constant and predictable activity, however: “when play happens within a medium for learning... it creates a context in which information, ideas, and passions grow” (Thomas and Brown 18). Because play exists on the border between bounded environments (both physical and digital) and networked spaces, it can be thought of variously as a boundary marker between the two, the permeable space connecting them, or the attempt to dissolve these separations altogether.

While this new culture of learning encompasses a range of activities, genres, and media, it is unique to the kind of learning that occurs in a variety of environments today, including classrooms, businesses, professional conferences, discourse communities, and game-worlds, just to name a few. These environments are constantly changing, which necessitates a recognition that learning, too, has changed, and therefore teaching must as well. This constant

change, Thomas and Brown explain, “forces us to learn differently. If the twentieth century was about creating a sense of stability to buttress against change and then trying to adapt to it, then the twenty-first century is about embracing change, not fighting it” (Thomas and Brown 43). As such, learning is increasingly recognized within environments where it has been previously ignored, restricted, or misunderstood. It is also important to note that the new culture of learning challenges the boundary between the physical and the digital, suggesting that digital environments are increasingly becoming incorporated or blended into the non-digital. Thomas and Brown argue that this also applies to educational environments, which are “constantly changing... where the participants are building, creating, and participating in a massive network of dozens of databases, hundreds of wikis and websites, and thousands of message forums, literally creating a large-scale knowledge economy” (106). While Thomas and Brown make a strong argument for the increased importance of digital environments for learning, they do not fully explore the boundary between the physical and the digital.

In *Ambient Rhetoric*, Thomas Rickert devotes his fourth chapter to examining this boundary, focusing specifically on how the design decisions in the production of a piece of software result in a rhetorical and affective experience that necessarily goes beyond the software itself. Specifically, Rickert analyzes the decision by Microsoft to invest significant time, money, and effort to hire noted avant-garde musicians to design the 4-6 seconds of start-up music for Windows 95 and Windows Vista. “Microsoft Windows and similar entities are not

just operating systems or software programs we use,” Rickert explains, but “rather, they constitute an actual environment” (Rickert 131-2). Rickert describes the different elements of an environment that afford specific experiences as “ambient dimensions,” or the “confluence of sound, image, material environment, bodies, and mood” (135). This environment affects the actions and activities performed within it, as reflected in Rickert’s definition of composition: “the synthesis and assemblage of multiple content threads of varying intensities, including discourses, symbols, colors, graphics, musics, sonics, haptic elements, and more, all as gathered within, conditioned by, and expressing a material and affective environment” (Rickert 133). Thus the environment cannot be isolated or identified with reference to any one of its ambient dimensions; likewise, composition is the sum of the various content threads it assembles, meaning that any given composition is shaped by the available resources, informed by relevant ideas, and altered by the objects placed within it.

This is particularly interesting when contrasted with Kevin Moberly’s notion that players “compose themselves in relationship to” games, which he describes as “highly symbolic environments” (291). What both Rickert and Moberly seem to suggest is that the user of a software program and the player of a videogame encounter an environment that is produced (in various ways) both inside and outside of the game. Through this encounter users compose themselves in relation to these environments even as they are simultaneously composing a product (like a game level) using the same tool. It’s important to note that Rickert uses the term environment not to describe the digital space that exists within the

interface of the software, or the physical space that allows the user to manipulate this interface, but rather the confluence of the two.

3.4 Dynamic Media Ecologies

On a similar note, Rickert refers to the interaction between disparate elements of a single composition—in this case the Windows start-up music—as ecological, meaning they combine “music/sound, image, and discourse, while profoundly attending to the materiality of these media forms and the places they emerge within and inflect.” Furthermore, Rickert explains that such a view of ecology is less concerned with “isolating various elements in order to understand their particular impact (discourse, image, meaning, mood, etc.) than of putting them together ecologically (143). In a sense, an ecological approach to rhetoric and composition attempts to understand how a broad range of elements come together to create the experience of the user, reader, or player. Interestingly, Rickert points out that such an ecological view contrasts with the more traditional multimodal approach to understanding technology.

Multimodality, Rickert explains, “indicates various discrete modes that are then combined,” and though he argues we can isolate modes in order to understand them conceptually, they cannot be understood as somehow distinct or separate from one another (143). He continues: “we should be able to theorize, analyze, and explain how ‘multimedia’ forms compose an interactive place, one no longer bound exclusively by considerations of physical dimensions or determined by overemphasis on a particular, isolated mode (such as print or

sound)” (Rickert 144). By contrasting the ecological with the multimodal, Rickert offers a view of technology focused less on individual aspects of a user’s experience and more on the whole experience.

In her book *The Ecology of Games*, Katie Salen makes a similar argument: “Although there has been a considerable amount of work written on games and young people’s use of them,” she states, “there has been little work done to establish an overall ‘ecology’ of gaming, game design, and play, in the sense of how all the various elements—from code to rhetoric to social practices and aesthetics—cohabit and populate the game world” (2). This ecology of gaming, described as a dynamic media ecology, has at its core “new forms of social organization and alternative ways of thinking and interacting” that, much like Rickert’s concept of environment, places value not just on the game itself but also on other factors that directly shape the gaming experience. While it’s fine to examine certain factors separately in order to better understand how they contribute to the whole gaming experience (as indicated by the attention paid to game manuals, user-created content, gender and identity in online games, etc.), such factors cannot be properly understood when isolated from one another.

Recognizing the dynamic media ecology of games means acknowledging that gaming (and game scholarship) does not take place within a vacuum, but is enmeshed in a complex web with connections to other games, industries, disciplines, and conversations. As Salen explains further, “gaming represents an ecology that is tangled up in a range of other ecologies—social, technological, economic, political.” Recognizing these interconnecting ecologies is only the first

step; to truly tap into dynamic media ecologies, she asserts, requires “learning how to activate gaming as one node within a larger network” (Salen 11). Dynamic media ecology, then, simultaneously creates a general conceptualization of how games are played, designed, and culturally disseminated and, more specifically, provides a sturdier theoretical foundation for games scholarship.

3.5 Discursive Environments

While dynamic media ecology is useful for understanding the networked nature of new media in general, the concept of discursive environments provides a similar way to talk about videogames but from a more explicitly rhetorical perspective. As mentioned in chapter one, Christopher Paul suggests *wordplay* as a more holistic way to approach videogame scholarship based primarily on three intersecting aspects of the dynamic media ecology of games: words, play, and design. Paul draws extensively from rhetorical theory to suggest a foundation in rhetorical analysis; more specifically, he argues that doing so will allow scholars to “address the entire discursive environment of gaming as virtually everything can be described as rhetorical” (6). While it certainly strengthens game scholarship to focus on the discursive environment that extends beyond the game itself, Paul suggests this is equally critical for game designers: “by recognizing how various factors function to create a discursive environment,” he explains, “developers can seek to make all the rhetorical texts of their games work together in a concordant message that creates the desired gaming environment for players” (Paul 12). In other words, developers can better

control the games they create if they recognize games as only one design artifact in a larger network of artifacts that directly impact the player's experience in some way.

For composition instructors, this is important for two reasons: first, examining the discursive environments of videogames can help students understand how various “texts”—marketing, box art, commercials, websites, and online interaction, just to name a few—each distinctly impact how a game is perceived and played; second, for any project that asks students to create their own games, it's important to stress that even the most basic form of rhetorical design necessarily involves interaction with “texts” beyond the game they create. For example, during my *Portal* project I have students read some basic game design scholarship like Raph Koster's *Theory of Fun for Game Design*, find articles about Teach with Portals, watch documentaries about digitality, and peruse wikis on *Portal 2* and other games; in addition, I have them create design proposals, maintain group schedules, write frequent blog posts, sketch maps of their levels, interact with group members via e-mail, take image and video screen captures of their levels, and produce a video blog demonstrating their design process. Beyond providing a scaffold for the project, these additional texts students produce also simulate the dynamic media ecology of games and demonstrate how the discursive environment can be analyzed and replicated for any given game or design artifact, digital or otherwise.

3.6 Recursive Space

While the discursive environments of games are an important and often neglected aspect of both game scholarship and game-based instruction, it should be clear that there is no substitute for actually playing and designing games in the classroom. What might be less clear, however, is how exactly such activities pertain to composition. As already discussed in the previous chapter, it is problematic to suggest that play and design are a form of writing because such a claim implies digital practices are dependent on textual practices. What is needed is language that allows us to discuss games in the context of composition. But rather than talking just about the discursive environment of a game or just about the mechanics and design, rhetorical game scholars must be able to incorporate both into their analysis. Much like Paul's notion of *wordplay*, we must strive for a more balanced approach.

One way to achieve this balance is to focus on how games actually generate interaction. When a player sits down in front of a computer or a console, what exactly are they interacting with? Is it the code, the art, the visible objects on the screen, or the game-world and characters? In a sense, it is all of these; but more specifically, it is the recursive space of the game with which players are interacting. As Aylish Wood explains, "recursive space relies on the game technology and the gamer: together they create the space through an interaction involving feedback into the state of the game, the view of the game, and between the two" (93). More specifically, the term recursive describes "the way in which both a gamer and game refer back to each other" and "involves a repeated

procedure in which the outcome of each step is defined in terms of the results of previous steps” (Wood 91). In other words, recursive space is “when a gamer becomes entangled with the game world and the possibilities of a game’s code,” which results in the player and the game exchanging input and output to produce a meaningful reaction for the player (on multiple levels) and both a visible and procedural reaction within the game (Wood 88). To put it another way: “The agencies of the gamer and game both contribute to play” (Wood 102).

As Wood notes, if we pay attention to only the player’s reaction or only the game’s reaction, we are missing a larger part of what makes recursive space so distinct. Given this, something like the *Puzzle Maker* only gets us part of the way there. But even if we don’t actually have students manipulate the code, we must make them aware of how and why the *Puzzle Maker* disguises its code because this decision directly impacts how the player interacts with the recursive space of the *Puzzle Maker*. To put it another way, games are recursive because the input of the player directly results in multiple types of output within the game, which in turn produces reactions for the players and allows them up to provide additional input later in the game. A player, then, is always engaged in a cycle whereby they transform experiences in the game into direct action outside of the game and then turn that reaction back into an interaction with the game space. Here, space refers to what is visible to the player as the distance between objects on the screen, between objects in the game-world, and in between representations of objects in the code of the game. Thus, space in videogames “is reconfigured through the participations of both gamers and the game,” which results in an

experience mediated by “the demands of the programming and through the game design, while also controlled by the player” (Wood 88, 95).

Recursive space is important for composition studies because rather than contextualizing play within traditional literacies as a form of writing, we can think of it as (in Ulmer’s words) an electrated practice that occurs within the game and is experienced by the player as visual stimuli, physical reactions, and emotional responses. Furthermore, through such responses the player occupies the recursive space, and as a result, generates the gaming experience. For example, in any level of *Portal 2*, players are presented with a room that contains certain predetermined visible objects (doors, buttons, platforms, etc.) and delimited spaces (walls, floors, ceilings, etc.) that dictate what the player can and cannot do. However, the player has the portal gun, which allows them to input actions within the game that change the predetermined space by allowing the player to place portals on certain surfaces.

Consider a level that contains a turret, a basic obstacle that shoots whenever it detects motion. As designed, the room would be impossible to beat without the portal gun because the player (1) cannot get to the exit without getting past the turret, and (2) cannot move past the turret without being shot. Once the portal gun is introduced, there are several ways to solve the puzzle: place the portals in such a way that the turret simply falls through one and out the other; drop something, like a cube, through a portal and onto the turret; or simply place a portal behind the turret’s motion sensors allowing the player to drop through undetected. In each case the player is making a choice that changes the

space of the game, which then changes how the player is able to proceed—or, as Wood puts it, “the imagery reconfigures in relation to an input, which provokes another input, which again reconfigures the imagery” (91). With certain levels one or more of these solutions might not work: for instance, if the walls behind the portal are designed to be “unportable,” meaning a portal cannot be placed upon them. If this is the case, the player’s input must change in response to the visible-objects the game presents.

Recursive space has clear ramifications for game creation as well. With the *Puzzle Maker*, the player can move back and forth between the build mode (where they create their level) and the test mode (where they play the level they created). Part of the creation process involves testing the recursive space of the game by ensuring that there is an appropriate balance: If it is impossible for the player input to result in successfully solving the puzzle, there is no feedback between the game and the player, and the level doesn’t work; similarly, a level is out of balance if the player can simply walk to the exit without encountering any obstacles or challenges. In the end, recursive space involves the same reflexive awareness to learning and literacy suggested in previous chapters, but with more emphasis placed on exploring the role technology plays in shaping and mediating these encounters. Given this, we must understand play and design not as entirely bound up in the experiences of the player or designer, but as a complex relationship between the player, the programming and design of the game, and the technology that mediates this interaction. While this might seem like an

insignificant distinction, characterizing it as a relationship emphasizes the multiple agencies and purposes represented in any game.

3.7 Toward a Pedagogical Synthesis

Discursive environments and recursive spaces are inherently connected. When we play a game, we are almost always interacting with both simultaneously, though the precise manner is not consistent from game to game or even within a single game. How we play and what we get from that experience (i.e. meaning, learning, entertainment, affect, persuasion, etc.) is entirely determined by the variables that exist in both the recursive space of a game and the discursive environment(s) in which all games are situated. We can isolate any one of these variables and analyze them out of context, but we need to be aware that it's impossible to understand, for example, the rampant sexual harassment and misogyny that takes place on Xbox Live, without looking at a host of other factors that also impact that particular variable. This doesn't mean we shouldn't study it or teach it, but rather that we should do so carefully and without making overly-conclusive statements. This also means we need to be critical of concepts that are generalized from individual games to gaming in general while ensuring that classroom uses of gaming are open, accessible, and safe for all participants, even when the gaming culture we study is not.

A synthesis of discursive environments and recursive space is also a reminder that these concepts always already impact how we play and create games. As such, they must also be applied with similar critical awareness and

care to teaching with games. If we are to do this, it means recognizing that popular uses of games in the classroom—like edutainment games, serious games, gamification, or content-delivery games—are limited because they are often used without attempts to address recursive space or discursive environments. Furthermore, these attempts to integrate only certain aspects of games into the classroom are largely unconnected to the conversations, concerns, and larger culture that are so important to commercial videogames. Ignoring these is also to ignore the qualities of games that make them valuable to instructors and students in the first place.

With this in mind, in the next two sections I will propose a synthesis between the two, one that applies not only to playing games but also to designing and teaching with them as well. It's important to note that such a synthesis must go beyond simply stating that they are both important as independent concepts. While discursive environments and recursive space are both very helpful on their own for understanding games, I argue that the value of connecting the two concepts ultimately comes from the potential for unanticipated interconnection between different variables that are too often isolated.

For example, after two days of playing around with the *Puzzle Maker*, I told students they had two weeks to design their own level and they had to collect screen-captured video and images throughout this process in order to create a video walk-through or tutorial for their level. By introducing this discursive element to the project, I asked students to concentrate carefully on elements of the recursive space of the *Puzzle Maker* would not be important had they had not

been responsible for then teaching someone else how to create a level. After I revealed this twist, groups continued to explore, but they did so realizing that the more they understood how to play and design the game, the better their videos would be, and the more effective and useful it would become for their audience. To successfully complete the assignment they had to understand both the recursive space and discursive environment of *Portal 2* while also demonstrating an ability to jump back and forth between these to make their videos. This was not a deliberate, intended, or predicted outcome of my assignment; however, as I will discuss in detail in the next chapter, these sorts of unanticipated and spontaneous connections are really what this approach is about.

3.8 Craft and Tinkering as Composition

To make this theoretical discussion more useful for the purpose of teaching composition, it is necessary to combine the theories of recursive space and discursive environments with a pedagogical view of writing and design that makes similar claims but directly emphasizes practical application. For this, I turn to the concept of craft as developed by Kristi Prins in her article “Crafting New Approaches to Composition.” Prins argues that composition studies requires a more comprehensive approach to writing that expands on existing theory to offer a broader and more useful model for how writing is actually practiced today. Her solution is to envision writing as a craft, which she defines as “a particular set of actions and relationships between people and things” (Prins 145). What makes craft particularly relevant for contemporary approaches to writing instruction also

makes it work as a practical synthesis of recursive space and discursive environments: “Craft invites us to consider things and actions, craft as noun and verb. It calls to mind a maker, the tool that maker uses, and the material that maker shapes into an object (Prins 145). Craft, then, is a much broader way of approaching writing, and one that takes into account both the “text” being produced and the confluence of other factors that shape this production. Craft does not rely on a particular process or a set of principles, nor does it outright reject these as an undesirable outcome. Instead, craft implies that the development of any product is only a small step towards learning the craft, which means that any act of production also requires prolonged engagement with the tools, materials, and culture that are fundamental to the community.

In many ways, craft is similar to design, even though it would not be an effective approach to composition if not for the work of early scholars in design theory, like The New London Group. One of the most important contributions The New London Group made was suggesting that “all semiotic activity [is] a matter of design that involves three elements: available designs, designing, and the redesigned” (New London Group qtd. in Prins 147). This three-part model for semiotic activity is fascinating because it approaches writing and design from many different directions. While such a view of design in the composition classroom gets us closer to a more contemporary understanding of writing, Prins suggests it fails in one important area: “What the notion of design lacks,” she explains, “is a clear ethical direction because it can be appropriated for too wide a variety of purposes” (149). This lack of ethical direction is less of a problem for

craft because it is more firmly rooted in culture, identity, and relationships. Much like tacit knowledge and critical learning, craft is not taught through direct transfer, but is learned through experience, usually in the form of training, mentoring, apprenticeships, or participation in craft guilds. Embedded in the concept of craft are notions of training, time, experiential learning, individual development, materiality, identity, purpose, relationships, and—perhaps most importantly—community.

In a sense, craft can be described as “a complex of relationships between a maker's identity, her interactions with others, and the things she makes” (Prins 145). Of course, at the heart of this relationship is common knowledge and practice, which means there is a reciprocal development between learning the craft and understanding one's identity in relation to the craft community; indeed, for participants in a craft, “making cultural objects becomes part of who they are and what they do” (152). Community isn't just a tangential or incidental aspect of craft, but rather a defining element critical to the success of any particular craft.

In her book *Designing Culture*, Anne Balsamo reinforces this connection by discussing the value of community in the both the maker movement and the tinkering culture. Tinkering, she explains, “is a mode of knowledge production that involves the hand, the use of tools, and mentoring relationship among people in close physical proximity” (177). Balsamo differentiates between two types of community: communities of interest and communities of practice. Communities of interest “connect learners with mentors, for the purpose of sharing knowledge about the use of tools and tinkering techniques”; communities

of practice, on the other hand “enable participants to gain skills and experience in hacking the present in the service of creating new futures” (Balsamo 180). More specifically, communities of practice also involve some form of creative make-spaces, which can be physical, networked, or mixed-reality (Balsamo 177-182). Tinkering represents a community that is motivated not by money but by common interests or skills and that is comprised of a larger culture and not just a few individuals.

At the end of her article, Prins describes the potential for fostering these qualities of tinkering and craft in the composition classroom. Though she notes that “students come to FYC courses with widely divergent experiences with and attitudes towards digital technologies,” she is also careful to acknowledge that “[c]raft culture is sustained by the blogs, websites, online tutorials, and streaming video that crafters use to share their projects, as well as digitally crafted artifacts themselves” (Prins 157). A common culture and a sense of community is something that is developed as the craft itself is learned, practiced, and refined. The community is responsible, in a sense, for determining what the craft becomes and as such the different backgrounds and experiences the community members bring with them all enrich the common pool of knowledge that informs the craft.

We can then begin to think of our classroom in similar terms: instead of twenty students writing alone, we can recognize our classroom as a community developing and inventing the craft of composition together. If craft emerges through collaboration within the community, then composition-as-craft must

emerge when students work together to define and discover composition on their own—with relatively little intervention on the part of the instructor. That’s not to say the instructor should be absent, but rather that any limitations or constraints placed on projects should be done to encourage student collaboration and motivate creativity rather than assert instructor control. Too much regulation from outside the immediate community that forms (at least in theory) within the classroom can destroy craft-as-composition, just as external control or oversight is a primary difference between a craft guild and a professional design firm.

3.9 Gaming + Craft = Gamecraft

As a pedagogical approach for integrating games (digital and otherwise) into the composition classroom, *gamecraft* is effectively a portmanteau of gaming and craft. Here I use the word gaming, as defined by Katie Salen, to describe “the sum total of activities, literacies, knowledge, and practices activated in an around any instance of a game” (9). I chose “gaming” rather than “games” for the same reasons that we talk about writing as more than just the physical act of inscribing letters on the page, typing them on the screen, or even arranging them into sentences and paragraphs. To incorporate games into the classroom necessarily involves recognizing them as more than just objects for analysis or systems that only become meaningful through play. Gaming involves all of the “activities, literacies, knowledge, and practices” that have transformed games into a massive commercial industry, a legitimate culture, a vibrant and multifaceted community, and a distinctive craft in its own right. In short, we must

acknowledge that gaming, much like writing, is a complex and intricate network of practices that requires a substantial amount of training and experience to adequately understand.

In coining the term *gamecraft*, I draw upon three separate-but-related notions of craft: first, the idea of craft presented earlier in this chapter in relation to the maker movement, DIY culture, and tinkering. Second, the concept of theorycraft, a form of metagaming utilized primarily by players of *Starcraft* and *World of Warcraft* as a means to discover “optimal strategies and approaches” that work from “outside the game to improve the quality of play inside it” (Paul 134). And, finally, craft is often associated with *techne*, which is commonly defined as “An art, skill, or craft; a technique, principle, or method by which something is achieved or created” as well as “a product of this, a work of art” or craft (“Techne”). Each of these three concepts suggests an approach to a given practice that involves much more than just the practice itself—for example, the maker movement is a craft culture and theorycrafting was developed entirely by the player community to meet their needs. In this same way, *gamecraft* must be more than just playing games in a composition course: it must meet the needs of both students and the institution while also reflecting the values of gaming that have encouraged so many instructors to add game-based assignments to their curriculum. Furthermore, *gamecraft* must draw upon aspects of both discursive environments and recursive space in order to develop independently of other more traditional approaches to composition.

Gamecraft, then, is unique from other attempts to use games in composition in that it incorporates gaming on a more comprehensive and thorough level that requires more than just a day or two playing games in class or a short homework assignment analyzing serious games. Instead, what *gamecraft* provides is an extended and engaged approach to composition that encourages students to explore games from many different angles. This involves playing, discussing, designing, planning, revising, testing, and analyzing many different types of games—if this seems like a lot for a single assignment or unit project, it most definitely is. As I will discuss further in chapter 4, *gamecraft* must be treated as a fundamentally unique philosophy of composition rather than an assignment sequence that can be applied to other approaches.

Having said that, the primary reason I chose to create a new concept rather than amend an existing one was because composition scholarship needs an approach to gaming that is both sustainable enough to incorporate the constantly shifting medium of contemporary games, and flexible enough to support the wide range of activities, assignments, and procedures indicated by the both gaming and craft. In short, *gamecraft* argues that the most effective way to integrate gaming into the composition classroom is to also integrate composition into the gaming culture and community. Only by achieving this equal interconnection between the two can we actually say that we are teaching gaming in the composition classroom.

CHAPTER 4. THE VALUES OF GAMECRAFT AS A PHILOSOPHY OF COMPOSITION

4.1 Reconsidering Philosophies of Composition

My motivation for introducing a new concept like *gamecraft* is not to reject other theories for game-based composition pedagogy, but rather to question the purpose of those theories. As I claimed in my introduction, it is no longer enough to argue that games should be a part of the conversation about composition scholarship; indeed, the presence of special games issues in major journals and the active presence of the *Cs the Day* alternate-reality game at the Conference on College Composition and Communication are proof that the field of rhetoric and composition has taken notice. The current challenge, then, is not only to demonstrate why games belong but also to show how instrumental they can be for making rhetoric and composition scholarship relevant to instructors and students. To do this, I argue, involves rethinking both gaming and composition rather than only asking what we can borrow from games to improve composition. This is why I theorize *gamecraft* not as a theoretical position, the basis for an assignment sequence, or the material for a syllabus approach, but rather, to borrow a phrase from Richard Fulkerson, as a philosophy of composition in its own right.

Philosophies of composition, Fulkerson explains, “exist in practice” and “give rise to vastly different ways of judging student writing, vastly different courses to lead students to produce such writing, vastly different textbooks and journal articles” (344). Originally written in 1979, Fulkerson’s “Four Philosophies of Composition” lays out what he recognizes as the major philosophies accepted at the time. While the actual philosophies are interesting, I am more concerned with Fulkerson’s reasoning behind advocating these philosophies. According to Fulkerson, “one’s philosophy about what writing is for leads to a theory of what constitutes good writing. That philosophy, in turn, leads to a concept of pedagogical goals, and the goals lead, in turn, to classroom procedures” (346). The theory that informs a philosophy of composition, also described here as a value-theory, reinforces the instructor’s role in interpreting the different accepted philosophies in order to define how each might develop as pedagogy and transfer to classroom procedure.

Perhaps the most interesting point Fulkerson makes is in regards to consistency: “in many cases,” he explains, “composition teachers either fail to have a consistent value theory or fail to let the philosophy shape pedagogy” (347). Ultimately philosophies of composition must simultaneously be theories and values we express in our scholarship and strengthen through our teaching. When it comes to application in the classroom, Fulkerson argues that “there is something seriously wrong with classroom methodology which implies one variety of value judgment when another will actually be employed” (347). This last point is particularly important at a time of rapid changes in what we recognize

as the basic values of composition brought on largely by the increased reliance in the classroom on a wide variety of new technologies. Despite the emphasis I have placed in the previous chapters on distinguishing *gamecraft* from traditional approaches to composition instruction, I want to reiterate that it is first and foremost a philosophy of composition. That is to say, when we teach *gamecraft* we are teaching composition rather than game design, computer science, or even game theory. To legitimize *gamecraft* as a philosophy of composition that can then inform both the pedagogy and procedures we enact in our classrooms, we must first identify the value-theories that inform this philosophy. Though these are often dependent on the interpretation of individual instructors, I believe it is necessary to discuss common values to encourage further discussion rather than to promote standardization.

4.2 Gamecraft as a Techne

Before describing the values of *gamecraft* I have noticed in my own pedagogy, I want to briefly consider what composition scholars have said about the teaching of craft to get a better sense of how *gamecraft* fits with these views. In his highly influential article “Arts, Crafts, Gifts, and Knacks,” originally published in 1980, Richard Young explores this problem in detail, suggesting two different perspectives from which to consider how to teach composition as an art, craft, or skill: New Romanticism and New Classicism. New Romanticism, Young explains, “presents the teacher of composition with a difficult problem: i.e., how does one teach a mystery?” (Young 343). Quoting William Coles, Young

recognizes this “mystery” as the following: “When writing is not taught as art, as more than a craft or as a skill, it is not writing that is being taught, but something else.... On the other hand, art because it is art, cannot be taught” (Coles qtd. in Young 343). To put it another way, if we define writing as an art, skill, or craft, then that means either teaching writing is effectively impossible or what we’re teaching is not actually writing. “The solution to the dilemma,” Fulkerson claims, “is to change the role of the teacher” such that they are no longer recognized as the “purveyor of information about the craft of writing but a designer of occasions that stimulate the creative process” (Fulkerson 343-4). This notion of composition instructors as designers of the learning environments in which students compose is absolutely crucial because it forces us to be cognizant of and consistent with the values that both inspired and are conveyed through our pedagogy. This point will become clearer at the end of this chapter when I describe the values inherent in my *Portal* unit.

The second perspective Young presents, New Classicism, depicts art as “the knowledge necessary for producing preconceived results by conscious, directed action.” Importantly, Young pairs it not with craft but with knack, or “a habit acquired through repeated experience” (Young 344). This emphasis on the experience of the learner in addition to the contribution of the teacher is extremely important for *gamecraft*, as is Young’s definition of exploratory procedures, described as “a way of moving the mind out of its habitual grooves, of shaking it loose from a stereotypic past that wants to be retrieved, of helping the writer get beyond the superficial to levels tapped by the romantic’s muse”

(Young 347). Though Young devises exploratory procedures in the context of heuristics, I believe such an approach can work even within a post-process philosophy of composition that rejects set processes for a more tacit and experiential pedagogy.

Ultimately, Young concludes by arguing that we need a new conception of rhetorical art that does not privilege one perspective over others. “[T]here may be,” he asserts, “a more adequate conception of rhetorical art that does not lead us to affirm [one perspective] at the cost of denying the importance of others” (348). I believe this final point is key, not only because it means that we can borrow simultaneously from these two “conflicting conceptions” of art and craft, but also because it fits with the value-based view of composition espoused by Fulkerson and embraced in my conceptualization of *gamecraft*.

As I explained at the end of the previous chapter, one of the terms that inspired *gamecraft* is *techne*, which is variously describes as an art, a skill, and a craft. In the conclusion of her book *Techne, From Neoclassicism to Postmodernism*, Kelly Pender defines *techne* more specifically as “productive knowledge put in the service of some outside goal” (143). While Pender argues that defining *techne* as an art, craft, or skill is “only a small, usually misleading piece of the puzzle,” she does define craft in a similar way to *techne* as “the knowledge, talent, and skill needed to bring [a product] into existence” (4; 141). For my purpose, this equal emphasis on both the product and that which forms the product is essential and serves to distinguish *gamecraft* from other approaches that use games as the basis for a single assignment or unit.

Furthermore, according to Pender, *techne* “foreground[s] the productive nature of writing” and “creates opportunities for students to experience writing *as* writing” (142). To teach writing as a *techne* is to teach a form of metawriting or *poiesis*, which Pender describes as “a form of productive knowledge that engages its user in a process of making” (141). Because she advocates a production-oriented view of *techne*, Pender extends this warning:

in our tendency to value *techne* because of its ability to align writing with particular goals, we have overlooked the ways in which it explicitly foregrounds the ‘thingness’ of writing, that is, the ability of writing to engage us in a process... of bringing-forth that is aimed more at doing something than at knowing something (Pender 143)

This notion of *techne* as “doing something” rather than “knowing something” is incredibly important for *gamecraft* because it reinforces the critical idea of teaching composition “for its own sake” rather than “for the sake of the content it makes available” (Pender 143). In other words, a goal-oriented view of *techne* runs the risk of lapsing into a more content-based form of direct transfer or knowledge-banking. Give this, an assignment based on the analysis of serious games is less about the games than about whatever content makes the game “serious” and distinguishes it from commercial games. Given all this, recognizing *gamecraft* as a *techne* in the sense of “doing something” is critical for making gaming-based composition pedagogy more relevant and effective than it has been.

While *gamecraft* might not look like composition on the surface, having students directly engage with gaming rather than just writing about it emphasizes the importance of “doing” composition even if we aren’t teaching what Pender calls “the mundane activities of textual production” (Pender 151). More than anything, the “bringing-forth” of *techne* fits with the fluid and open nature of *gamecraft*, which is not defined by hard and fast rules but develops parallel to the values instructors recognize in gaming and gaming-based pedagogy, which is the subject of the next section. It’s important to note, however, that these values are not consistent, but shift based on the type of game, the needs of the instructor, the specific aspects of gaming emphasized in an assignment, and the interests and abilities of students.

4.3 Identifying the Values of Gamecraft

The eight values of *gamecraft* I want to focus on in this section are collaboration, reflexiveness, experimentation, interactivity, production, discursiveness, situatedness, and constraints. It’s important to note that these are values in the same sense as Fulkerson’s value-theory, and not standardized rules, or what Young calls “rule-governed procedures.” These are qualities of gaming-based pedagogy that are simultaneously valued by and integral to *gamecraft*. My reason for outlining these values in this way is simply to continue the conversations that we already engage in as a discipline regarding what we value in both composition pedagogy and gaming.

By using the word values I hope to begin creating a more consistent, though certainly not comprehensive, foundation from which we can begin to practice *gamecraft* as a philosophy of composition. More than anything, what I hope someone takes from this section is encouragement to develop their own curriculum that incorporates these values, the inspiration to reflect on what they value in gaming-based pedagogy, and the motivation to contribute to this list. What I want to avoid is the values of *gamecraft* turning into something akin to the 36 learning principles of games identified by James Paul Gee in his book *What Video Games Have to Teach Us About Learning and Literacy*. While Gee's work is certainly valuable and is frequently cited in rhetoric and composition scholarship, I believe it has limited application for composition instruction because it is a closed system that focuses on what games do rather than what we can do with games. These values emerged from actual pedagogy, were reinforced by the theories and concepts addressed in previous chapters, and should be tested, revised, and added to rather than closed off and treated as prescriptive, unchanging rules. In the remainder of this section I will present each value, describe why it is essential to gaming and composition pedagogy, and then explain how it emerged from my *Portal* assignment.

4.3.1 Experimentation

Just as there are no rules or procedures that always produce high-quality writing, there are no standards for what makes a good game. While many triple-A titles seem to build from elements of other successful games, some of the most

exciting games are those that seem like they shouldn't work. Who would have thought, for instance, that a game about interior decorating, maintaining relationships, climbing the corporate ladder, and completing domestic chores would sell 150 million copies worldwide? *The Sims* was successful because it was risky and the designers' experimentation with different genres and interaction ultimately paid off. Part of what gives gaming-based projects the potential to be so effective is that the procedures are less familiar than those students encounter in other classes, which means they might seem less intimidating or have lower stakes. During my *Puzzle Maker* project students actually did far more work than they would have for a traditional essay or research project, but because this project was broken into numerous smaller tasks groups pursued together, it probably seemed like less work to them. But most importantly, because this assignment is new, most students were willing to try it out, to take risks, to "play around" with it even if they weren't entirely sure what they were doing. The instructor's role, then, is to structure this experience in such a way that it is not stressful, rushed, or frustrating. In the end, if students' experimentation is rewarding, they are more likely to transfer that motivation and engagement to other projects.

4.3.2 Reflexiveness

It's one thing to say that experimentation and risk-taking should be part of the composition classroom, and another thing altogether to actually motivate students to embrace these in their work. While an instructor can't force a student

to be creative or original, they can encourage students to become aware of their own work through reflexive writing. While there is no guarantee that what a student gets from reflection is what we might want them to get, reading reflections provides insight into their thought processes and offers immediate feedback for instructors to evaluate the effectiveness of classroom procedures. The most effective component of my *Portal* assignment is consistently the four reflective blog posts students complete over the course of the unit. Because these blog posts are spread out over a few weeks it's easy to see the progress students have made and get a sense of how they think about and respond to different parts of the project. Returning to Donald Schön's theory of reflection, it's important to allow time for both reflection-on-action (i.e. short writing assignments or blog posts) and reflection-in-action (class discussions, sharing experiences, asking other groups for help) in order to encourage students to carefully consider the entire gaming experience.

4.3.3 Interactivity

Few others forms of media offer as engaging or rewarding of an experience for the user as videogames, which is part of what has made them so appealing for educators. While we obviously want to engage our students in the composition process, interactivity should be something students explore and understand rather than something instructors exploit to "make writing fun." Exploring interactivity involves understanding how the recursive space of games is constructed, both by analyzing it through play and by recreating it through

design. One of the most important parts of my *Portal* assignment is the first time students play through a level they just designed. Even if the level didn't turn out as they planned, students are beginning to notice how the choices they made structure the possibilities available to players while also recognizing what makes a game fun, engaging, interesting, or challenging. It's important to get students to arrive at these conclusions on their own by having them discuss, reflect on, and evaluate their own designs as well as those created by other students. Doing so provides students the vocabulary to describe what interactivity is, how it is achieved, why it's important, and how it can be manipulated for different results.

4.3.4 Discursiveness

Almost from the very beginning of the game industry, the gaming experience has been about more than playing games. This expanded activity includes hand-drawing a map of *The Legend of Zelda*, reading about games in *Nintendo Power* or *IGN*, buying a strategy guide or using a walkthrough, reading and writing reviews on blogs, and modding games to generate new play experiences, among many others. Such activities are a crucial form of discursiveness that defines the experience of gaming for most players. Designers, too, are aware of the value inherent in the discourse surrounding games, which is why they put money into creating and maintaining digital spaces like message boards, forums, and wikis for fans to chat, develop strategies, discuss their favorite games, and share in the common experience of gaming. This is a critical part of gaming that can be replicated fairly well in the composition classroom.

One semester I taught a different assignment using the *Puzzle Maker* which required the entire class to collaborate on a wiki that contained a description of each group's level, the videos they created, a guide for using the *Puzzle Maker*, and glossary of terms. It's important to note that by discursiveness I don't mean only written or oral discourse, but also the material, environmental, and even psychological aspects of gaming that are just as crucial. Having said this, it's important to acknowledge that gamecraft should also be applied to both non-game digital interactive systems and non-digital games, including augmented-reality (AR) or pervasive games, table-top games, and role-playing games.

4.3.5 Constraints

As anyone who has ever tried to teach document design before can attest, asking students to open a piece of software and just create something is often met with apprehension and frustration. Rather than being freeing or conducive to experimentation, such independence can shut down creativity and prevent students from taking risks. Constraints are a critical part of any assignment involving gaming, especially game design, because they offer a firm foundation from which students can push off. For instance, rather than giving students free-reign when creating levels with the *Puzzle Maker*, I had each group choose a specific object from the game to build their level around. While this allowed them to focus more by restricting the tools they could use, it also challenged them to really master designing and playing one type of level, which ultimately resulted in a more interesting experience for them as well as more purposeful, refined levels.

4.3.6 Situatedness

Teaching with realistic rhetorical situations is nothing new for composition scholarship. Despite this, very few game-based approaches to composition attempt to replicate a realistic rhetorical situation of gaming, whether that might involve design, development, programming, play, or even community interaction. Situatedness in this case refers to placing students in situations that are at least similar to a situation that exists outside of the classroom. For example, when I designed my *Puzzle Maker* assignment I consciously tried to replicate to the best of my knowledge the environment of a game design studio. By putting students in small groups I deliberately challenged them to work together, rely on each other's skills, and reflect on each member of the group's strengths. And because every student came with a different background in games, this also allowed for students to learn from each other in ways I never could have anticipated. Of course, not every composition instructor knows what it's like to work for a game studio first-hand—I'm certainly by no means an expert. While approximating can be sufficient, there are a number of resources we can turn to, including searching through blogs and journals on game design, reading texts written by designers (Ken Birdwell's "The Cabal: Valve's Design Process for Creating Half-Life" and Raph Koster's *Theory of Fun for Game Design* come to mind), and having students explore genres distinct to design, such as post-mortems or design plans. The more realistic the situation of an assignment is, the more likely it is to connect to other disciplines or professions beyond composition, and (in theory) the more relevant it will be.

4.3.7 Production

A key component in many recent theories on learning in the digital age is an emphasis on production as well as consumption. By production I mean creating games and related discourse similar to those players might actually encounter. Part of this relies on software like the *Puzzle Maker* that affords user-generated content that is strikingly similar to that of the commercial game. But highlighting production also involves replicating the rhetorical situations of gaming, which requires challenging students' preconceived notions of what qualifies as writing. Over the course of my *Portal* unit students produced a lot of writing—from reflections and design plans to videos and wiki content—but very little of it was what students expected to encounter in a traditional English class. Though contemporary composition courses are more likely to include unconventional assignments, it was surprising how much of the production was student-driven and not assigned or required. For example, one group was having trouble communicating their ideas so they actually sat down together and sketched out by hand what they wanted their level to look like and then recreated this design with the *Puzzle Maker*. While they were the only group that produced a sketch, almost every group relied on several different types of production to create a level they were ultimately satisfied with.

4.3.8 Collaboration

Increasingly, the game industry is placing more and more emphasis on multiplayer or massively multiplayer modes in their games rather than single

player campaigns. While this is certainly a reason to encourage collaboration through play, it's also important to recognize that game design itself is an inherently collaborative activity. Very few popular games (barring the occasional indie like *Braid*) are made by one or even a few designers, with popular triple-A titles like *Portal 2* often created by dozens of people, each fulfilling different roles and contributing to different aspects of the game. With this in mind, I designed my assignment to have students work in small groups to design a single level together rather than working independently on their own levels. Though at first this produced some confusion and apprehension, it ultimately resulted in a higher level of thoughtful discussion, planning, negotiation, self-evaluation, and increased creativity compared to previous semesters where students completed the assignment individually.

Each of these values contributed to making my *Portal* assignment an effective experience for students and a rewarding though challenging pedagogical exercise for me. While these values are not exclusive to *gamecraft*, they function as a set of variables that can be altered and played with to create experimental combinations that are unique. Giving name to these variables ultimately gives us the language necessary to describe why exactly gaming can be so effective, and by basing these variables in generalizable values *gamecraft* remains accessible and flexible to the needs of different instructors, institutions, or courses.

4.4 Conclusion

When I first considered how to approach this project, my original idea was to directly map the WPA Outcomes Statement for First-Year Composition onto my *Portal* assignment. While this exercise was both interesting and extremely helpful, such a process can misleadingly suggest that our work is finished if we can demonstrate how teaching with games meets the same goals we have for teaching composition. Rather than suggesting that one successful assignment somehow proves an approach is effective, I decided to consider instead why this assignment was successful and how exactly it differed from other approaches. This line of questioning eventually led to what became *gamecraft*, a philosophy of composition that I have argued is a distinct approach for teaching first-year composition. It is necessary to distinguish *gamecraft* from other philosophies because, as should be clear, it is based on a number of fundamentally different values and necessarily results in pedagogy and procedures that are decidedly distinct. While it is possible to teach with games using other composition philosophies, we should not be satisfied with forcing an assignment to fit incompatible values or pedagogies when there is enough interest and enthusiasm in gaming within the field to support an independent philosophy.

Of course, this is not an entirely new concept and I am not the first to begin gesturing in this direction. I am certainly indebted to a number of conversations and theoretical positions that have pushed me in this direction, but it is because of this work, and not in spite of it, that I believe we need to demand more from the interconnection between gaming and composition. We must move

past the point where we borrow from gaming and game studies to strengthen and improve composition without considering games as a subject that is, in itself, worth studying, analyzing, and teaching. Methods like gamification and edutainment have their uses, but they are also symptomatic of the view that composition needs to be improved and gaming holds intriguing potential. According to such a view, if we simply figure out why games are fun, engaging, and rewarding—in short, all the things we fear composition is not—then all of our problems are solved. In reality there is no simple fix and it's problematic to suggest that every new technology that comes around will provide the answers we've been looking for. Indeed, as I did more research for this project and read about projects like Gee's principles of learning or Haynes and Holmevik's work with *LinguaMOO*, the more I realized that *gamecraft* isn't an entirely new approach, but rather is a more unified term for an ongoing movement to legitimize games within composition that has been around for decades and will hopefully continue well into the future. What's necessary, then, isn't to reinvent the wheel, but rather to put into practice a philosophy that is sustainable and flexible enough to fit with what has come before while anticipating what has yet to come.

Though *gamecraft* is developed from personal experiences and values that are largely individual, it's important to recognize that it must be first and foremost a useful philosophy of composition. Instructors need to be aware of the values they recognize in gaming and how those values transfer to the classroom. It's important to constantly interrogate these values and compare them not only

to documents like the WPA outcomes but also to other instructors teaching similar projects. Furthermore, we must work hard to keep *gamecraft* accessible, open to change, and prevent reducing it to fixed principles. Finally, we must be open to experimentation and criticism while continuously discussing and revising the values we advocate. Though rhetoric and composition as a field is more open to gaming than ever and games scholars are gaining more recognition outside of the games sub-field, it is absolutely critical now that we continue to challenge our own theories and values in order to prevent *gamecraft* from becoming just another passing trend.

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APPENDIX

APPENDIX

Videogame Tutorials and Wikis Assignment Sheet

For this project we will think about what it means to be part of an online discourse community; we will consider the ways people share information about topics they care about; we will examine and produce informative, reflective, and instructional writing; and we will take a close look at the thinking, learning, and invention that take place while playing video games.

During this unit we will spend time in class playing the video game *Portal 2* and using the *Portal 2 Puzzle Maker*, a piece of software that allows users to design their own. Though we will spend a lot of time specifically discussing *Portal 2* and the *Portal 2 Puzzle Maker*, we will also talk about games more broadly. The actual project itself is composed of three separate but intersecting parts: a series of reflective blog posts, a collaborative class Wiki, and a Video Tutorial, which you will create with one or two other students. The purpose of these three parts is to give you experience writing for different audiences, with different purposes, and using different writing media.

Blog Posts:

Over the course of several weeks you will write four 300-500 word blog posts about your experiences playing *Portal 2* and using the *Puzzle Maker*. The purpose of these blog posts is to get you to reflect on your own individual experiences using this software and to wrestle with a number of issues related to games studies, education, and design. I will provide you with prompts for each blog post, though you are encouraged to write about your own thoughts and reactions to the software. Though these are blog posts, I expect your writing to be formal, well thought-out, and similar to the level of critical thinking for Project 1.

Collaborative Class Wiki:

The Wiki component of this project is meant to replicate the kind of subject-specific Wikis that exist in many online discourse communities, such as The Portal Wiki and the Wikipedia entry on *Portal 2*. Wikis like these are created and maintained by an online community, in this case Portal fans, who make decisions about content, layout, and design.

As a class, we will collaborate to create a Wiki about the Puzzle Maker. The goal is to create an online version of the discourse community that we will be developing when we play the same game, read the same articles, and share many of the same conversations. The content of the Wiki will be determined in class, as will the allotment of tasks; in general, though, you will work in small groups to design a level, create a video tutorial, develop a Wiki page, and other general tasks like finding pictures, editing pages, and writing short segments. In class we will discuss the specifics of what should be in your tutorials and we will look at several examples for ideas and inspiration.

Video Tutorial:

The tutorial component of the Wiki will include both text and video created by each group. The videos will be short (3-5 minutes) and will be created from in-game video footage taken using the video screen cast function on QuickTime. You will edit this footage together and add titles, images, and transitions using Windows Live Movie Maker. The purpose of the tutorial component is to use what you have learned from using the *Puzzle Maker* to create instructional writing meant to show a wide, public audience how to use these tools.

Reflective Essay:

As we will do for each of the major projects, you will turn in a 400-600 word formal reflective essay after the final project has been submitted. The purpose of this essay is to get you to think critically about the different aspects of this project, including the time spent playing *Portal 2* in class, collaborating with other students on the Wiki, and working with your group on the video tutorials. The Reflective Essay is not part of your Project 2 grade, but rather counts toward your semester participation grade.

Assignment Objectives:

- Generate reflective, informative, and instructional writing
- Learn to use Wiki, screencast, and video editing software
- Gain experience writing for broad audiences with specific purposes
- Draw directly from your experiences with *Portal 2* and the *Puzzle Maker*
- Collaborate to make decisions, set expectations, and assign tasks