

“You Play”: A Study of the Learning System in *Half-Life 2*

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Introduction

Booting up a video game for the first time stirs a swirl of thoughts and expectations. Whether the game is a cult classic or a new release, a friend's favorite or the whim of a Saturday afternoon, often the new player tries to predict the experience: "Will I like the game?" "Is it as amazing as everyone says it is?" "Is it really such a fuss when Aeris dies?" But the player may not ask him- or herself, "What will I learn from this game?" "How will the game teach me to understand its controls and systems, and how will that affect my experience?" Although these questions rarely occur to the player when the main menu displays, they are important questions to the study of human learning and cognition, as well as to the study of games themselves.

Those who research video games as learning experiences may formally ask themselves these questions as they approach games phenomenologically, which characterizes a convenient way to study interactivity in games as "learning machines" that, when successful, foster certain principles of learning (Gee, 2005). I applied this approach to a case study as described below. I found that the learning system in Valve's *Half-Life 2* revolves around the construction of a compelling identity via main character Gordon Freeman. The game presents very sparse "just-in-time" information and includes "sandbox" and "fish tank" situations, all of which encourage the player towards the mastery of "cycles of expertise" through a "pleasantly-frustrating" self-reliance reinforced through characterization (Gee, 2005).

Method

In this investigation, I played *Half-Life 2* for sixty minutes to experience and analyze its learning system.¹ I had not previously played the game or its predecessor, so I came to it with little prior knowledge, especially of the gameplay. My platform of choice was a Macintosh computer, which requires significantly different control schemes than the console games to

which I am more accustomed. During my play sessions I primarily recorded audio fieldnotes with interspersions of handwritten notes, all of which I transcribed in paraphrase. The findings below are an analysis of these notes in relation to James Paul Gee's learning principles (2005). In order to preserve a sense of the experience, I shall render my results in chronological order as they appeared during play, and then I will offer theories on the effectiveness and resulting significance of the game's learning system.

Results (Data and Interpretation)

The beginning of *Half-Life 2* employs and withholds information in order to tailor the learning experience to the game's story. The learning system revolves around "identity" in that the narrative and notably the gameplay itself aims to "trigger a deep investment on the part of the player" in the discovery and advancement of the character (Gee, 2005). The game does so by enforcing the player's development of a resourceful independence gained by engaging with multiple learning principles. These will be noted in detail below, framed within an abridged narrative of my play sessions.

Half-Life 2 begins with a cutscene, or an unplayable digitally rendered full motion video, often used to transmit key story elements without the additional programming restraints of player interaction. This cutscene is cryptic and does little to explain the story outside of naming the main character, Gordon Freeman. It does present a tone, one of uneasiness and foreboding set in a science fiction world of perhaps mad scientists and certainly sinister laboratories. The cutscene also presents a viewpoint to be followed for the rest of the game; the player sees through the character's eyes, and at no point during my play did I see the character in third-person. Before I even had control, I was the character as if in an uncontrollable dream state.

Gameplay begins on a train, with no clues to coordinating movement or pursuing clear goals. Immediately the game refuses to produce verbal information onscreen when a player might expect or need it, or "just in time." The only description of the controls at this point is exclusively accessible "on demand" in the pause menu, meaning the player must find and interpret the data him- or herself and then practice movement, a skill developed as a strategy to proceed. The first few minutes of play do, however, provide the player with a tonal build. All other characters are dressed in laborers' jumpsuits as they traverse a somewhat lifeless train station and city, except for guards that harass the player character without provocation, invoking meaning through image. This is the dystopic world type shared with literature's *1984* and others, worlds in which the main character chooses to resist the powers that be, often by himself. This has been learned in a cultural context and is put to use in the game to define the character's role in the world he now occupies, all in the scope of five minutes. This is where games can build worlds and identities faster than books and film, due to their experiential component.

Soon the player encounters an ally, who originally appears as a guard. This ally, Barney, introduces another, Dr. Kleiner, through a video call, and both recognize the player character with warm familiarity and relief at his presence. Significantly, the cutscene introducing these non-player characters does not make the player relinquish control; the player experiences interaction directly as Freeman, not from a third-person or fixed perspective. Now that the stage is more formally set, the game gives the player an opportunity to explore, providing a few control prompts that can be used to manipulate the environment. Here the game world is constructed as alternately a "fish tank" and a "sandbox," Gee's learning principles that allow experimentation through, respectively, a simplified version of the system to be utilized and a low-risk environment in which the full system can be explored. Other than providing the game

world and the minimum control prompts as mentioned, the game does not guide the player through its system. This is where a player's independence blossoms. All learning is done on one's own, in one's own time and without immediate threat. However, the system rewards what Gee calls system thinking (and what I might call "gamer's intuition") ingrained onto an experienced gamer, as subtle lighting and audio cues guide a trained eye and ear to the first objectives, a common trope in games with open exploration.

The learning done in this early stage constructs the beginning cycle of expertise. The player now knows the basics about the world and moving within it, so he or she presses onwards. This soon results in a challenge, as guards begin chasing the player through a cramped apartment complex, where residents were sitting in despair before being accosted by guards. Manipulation of the character is a well-ordered problem; at first movement was learned slowly as a means to progress, but now fleeing requires more dexterity. My first trial ends in cornering and death after taking a wrong turn, the first time in which the game frustrates the player, yet without a harshness that would deter. I am instead pleasantly frustrated, motivated to perform better in my second trial, as I did. Yet I am later cornered a second time, seemingly through no fault of my own. Just as I begin puzzling as to what I did wrong, the main character is saved by another non-player character (NPC), who soon introduces herself as Alyx.

Alyx leads the player to a safe haven, with the tribulations concluded for now. The player feels safe in Alyx's company, and safer still when the previous two allies are united in person with the player. This sequence does much of the narrative work in building the character's identity by aiding the player during confrontation, referencing the player character's background (both in relation to the first game, presumably, and Freeman's MIT education), and creating an atmosphere of causal, friendly interaction between characters. Suddenly the player is invested

not only through his or her self-gained and now tested mastery of the controls, but also through a personal connection between the character's friends.²

Continuing, I then gain access to the HEV, or "Hazardous Environment," suit, which grants me more information through my on-screen display: health and the suit's charge. Health seems straightforward enough, but I assume that the function of the suit's charge will become apparent in future. The main characters are testing out a teleporter that would greatly benefit their budding resistance movement. Alyx goes through to her father Eli safely, but I am transported to places at random; something has gone wrong. I end up outside of the building in which I began, finding a doorway boarded by wooden beams. I attempt to duck under them to no avail. Barney appears with information "just in time," throwing me a crowbar and wishing me luck on my way to a distant refugee camp.

Finally the controls are feeling more natural to me, and I can now use them to deftly manipulate the character and distribute knowledge, another of Gee's principles (2005), across Freeman and the crowbar, thereby extending my own capabilities. Yet, soon the boarded doorway is not the only use for the crowbar. I can also use it to attack enemies. I am quickly a competent fighter, having gained my skills through the presentation of well-ordered problems, from practicing movement to moving quickly, and from using the crowbar as an environmental tool to using it as an effective weapon. The discovery of a pistol makes the disposal of enemies faster and rather satisfying. Now the guards have no claim of superiority, and I rise in status to a hero of Western proportions, like the strong and independent John Wayne, if he were an MIT-educated scientist in a futuristic dystopia (Nitsche, 2008). The guards will no longer be able to push me around, as my and Freeman's personal resistance has begun.

Discussion

It seems somewhat tedious to describe an hour of gameplay nearly step by step in order to “merely” see how a player comes to know how to play. However, *Half-Life 2* is a narrative game, one that presents a story that progresses through time. This assertion does not align this analysis with a narrowly narratological approach, as this holds no benefit. As Constance Steinkuehler asserts, the divide between narratology and ludology is “an unfortunate red herring,” for video games are neither just text nor just rules (Steinkuehler 2006). Steinkuehler alludes to Kurt Squire’s definition of games as “designed experiences,” in which the player learns in a participatory space as an agent (Squire 2005). This agency is key to the medium, Squire notes, because through it, games can use “challenge, curiosity, control, and fantasy” to motivate players to learn complex rules and systems (Squire 2006). James Paul Gee discusses this theory of learning in relation to the staggeringly complex systems in the Pokémon series (Gee 2004), and here I discuss it in relation to *Half-Life 2*. To further define and yet broaden my thesis in light of the learning system found through gameplay, *Half-Life 2* uses its immersive qualities to build a self-sufficient identity that empowers the player and fosters in him or her a sense of heroic, altruistic responsibility.

The efficiency of *Half-Life 2*’s learning system comes from games’ ability to immerse the player. Games exhibit this power uniquely, relative to other narrative media. In *Half-Life 2*, immersion primarily comes from the first-person perspective. From this point of view the player sees as if he or she is Freeman, but more subtly, he or she hears as Freeman does. Sometimes the game gives only aural directions rather than visual. When this is used to suggest when an action cannot be performed, the fourth wall is broken. However, those sounds are quiet and disembodied, acting as a non-vocalized acousmètre guiding the player omnisciently (Nitsche,

2008). Generally, the player can follow a voice to its source (e.g. Barney calling to me before I receive the crowbar), or sound is used to build tension, as in the flight through the apartment complex. The guards' voices ricochet up the staircases and ring out across the rooftops along with their bullets, both spurring the player onwards to a scrambling pace. This aural element also weaves into the cutscenes that introduce the friendlier characters, as the player can turn away, changing his or her audiovisual perspective of the scene. It does not change the events taking place, but it does give the player an all-important sense of presence, one recognized specifically by the NPCs as Gordon Freeman.

The use of characterization to fashion a compelling world is known to film and literature. This is a trope of the narrative media, into which I irrevocably include games.³ Jesper Juul suggests six different definitions of narrative: storytelling, a prescribed chronology of events, the relationship between events, a portrayal of humans or at least anthropomorphic creatures, a fabricated world, and a way to understand the world ontologically (Juul 2005). Here I condense those definitions, recognizing narrative as a story told, through text, sensory experience, or both, in a world that is at least marginally consistent internally. These stories may prompt the critical thinking that allows us to justify, understand, or even just question the world as we know it.

Half-Life 2 is indubitably narrative in these terms, and as mentioned above, its dystopic setting is recognizable amongst the narrative media. Furthermore, my own reactions while playing embodied the unique power of the game as a narrative artifact. When pushed by a guard with undue and unprovoked aggression, I felt indignant. Regardless of the distance conferred by the screen and keyboard, I felt as if I had been treated unfairly, and as I was herded along the corridors by these attacks, I resented the presence of the guards. This visceral reaction prompted a later action; as soon as the chance was presented, I used my newly learned ability to throw

objects in the service of taunting a guard. By throwing a bottle at him and running off, I not only tested the controls, but I resisted the power structure in the narrative. Like in a protest (or a riot, which would be the unfortunate but likely outcome of my action in the real world), I had a power that I discovered in spite of the power that tried to oppress me. I have read about that kind of rebellion in Yevgeny Zamyatin's *We* and Ayn Rand's *Anthem* and found it empowering (albeit mediated) there. However, having the power to incite such revolution literally at one's fingertips provides a motivation entirely different than reading or watching another as if through a window (or perhaps a panopticon).

This mutinous drive is not the motivation at the game's outset, but rather the outcome of the game's design. It becomes the motivation as the player realizes that he or she has the power to change something that they feel is wrong. I recognized this through the constraints of my methodology; my sixty minutes was up just as I felt the most empowered. What could I have achieved through this newfound power? Having overcome challenges that had become increasingly complex, I believed I could conquer more and "become a hero who saves the day" like Nathan Drake of the *Uncharted* series (Davidson & Lemarchand, 2012). But unlike Drake, who mostly wins over treasure and romance, I as Freeman (indeed, a fitting name) could feasibly win freedom for those distraught workers I encountered on the train and in the apartments.

Conclusion

The popularity and ubiquity of *Half-Life 2* speaks to the game's design. Many claim that the game and its predecessor forever changed storytelling in the medium. To earn such claims, the game must have exhibited a then unprecedented power that lingered with players long after the game's conclusion, or in my case, long after my brief play time. I have argued that this power comes from within the player, coaxed out by the creators' understated guidance. If the many

learning principles seen in *Half-Life 2* could be implemented in an educational context, it is possible that potential learners could develop an empowered curiosity and drive that, like the fun/play element in games (see Squire, 2011), brings learning into the hands of those it should benefit. Perhaps then we might be able to encourage each of us to be a Freeman, self-sovereign in the face of an oppressive conformity.

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Notes

¹ It may be significant to the findings that I did not play these sixty minutes in one sitting due to technical difficulties.

² This rang particularly true for me as a player. The game reveals without pomp that Alyx, already shown to be a strong but kind female character, is also of mixed race. Typically I pay little mind to the race of characters, but due to my own background, I cannot help but notice it here. It is rare that a game character appeals to my rather specific demographic, which serves to further build my regard for and thus identification with the characters.

³ That is, I include games to the same extent that I include film and books. Not all are narrative, but each medium has the power to represent a narrative effectively.