Game Analysis on *Counter-Strike: Global Offensive*

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Abstract

This paper reviews *Counter-Strike: Global Offensive* from several aspects. Gee's learning principles serve as the primary framework for this analysis. Personal experience and notes on gameplay will also become sources used to reach conclusions. This paper will discuss questions like how the game is designed to attract players and how do players learn the fundamentals of the game's underlying system. Not only focus on the game design, the robust community of players playing this game will be discussed with a primary focus on their interactions within or out of the game. Online community will be analyzed through the perspectives of social semiotic spaces and affinity space. Then several Gee's principles shown in the game design will be pointed out. At the end of the paper, its representation and appeal will be discussed based on character design, and suggestions for modification will be given.

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Game Background

Many people might have heard of a game called “CS”, but they do not really know it is the short for “Counter-Strike”. *Counter Strike* is a series of first-person shooting game, firstly released in November 9, 2000, and the latest version of *Counter Strike* is called *Counter-Strike: Global Offensive*(Hidden Path Entertainment & Valve Corporation, 2012). It is a multiplayer and cross- platform game, which are able to run on Windows, OS X, Linux, PlayStation 3 ("Counter-Strike: Global Offensive," 2017). However, if players want to play this game on Windows or Mac System, they have to purchase it through Steam, which is a big platform for the installation and updating of enormous games. Like most of the action games, there are two teams against each other, one called “Terrorist” and the other one called “Counter-Terrorist” ("Counter-Strike: Global Offensive review," 2017). There are two ways that count as a victory for a team: either the counter-terrorists successfully rescue hostages or the terrorists plant a bomb and later get explode("Counter-Strike: Global Offensive review," 2017). Players gain cash though killing people or achieving missions, and at the start of each round, they can use their cash to buy appropriate weapons with fully consideration of maps and strategy ("Counter-Strike: Global Offensive review," 2017).

Game Online Community and Social Semiotic Spaces

As *Counter-Strike: Global Offensive* has attracted fervent devotion of many player, there are a large number of online communities existed for CS:GO players on different channel such as Reddit and Steam. The most significant and easily accessible one is the Steam community for CS:GO. Besides Steam, Reddit has a page works like a CS:GO game forum where allows

players to discuss their strategies; Gosugamers is another website has multiple features includes CS:GO events broadcast, ranking board for players and also forum for discussion; Youtube has more than two millions channels related to this game and the top one got more than a million subscribers. A game forum or game review website will not be considered as "complete" without including a CS:GO section because of the tremendous populations of online players. CS:GO players not only interact frequently outside of the game, but a large number of in-game players can also be regarded as a complete online community. According to STEAMCHARTS(2017), which is a continuous analysis of Steam's concurrent players, in the last 30 days, the average number of players for *Counter-Strike: Global Offensive* is 366,853.6, and the peak time has reach 665,371. This data explained why this game is always one of the top sellers on Steam. Online in-game communities can communicate with each others by using build-in voice. Therefore, an interesting fact about CS:GO is that a large portion of players who recommend this game on Steam claimed that it contributes to learn how to speak Russian and other languages. The reason for this phenomenon could also relates to players with multi-cultural background under such a community.

CS:GO community could be analyzed through the perspective of social semiotic spaces which contains generators, signs, grammar and portals. Various inventory including guns and graffiti and different maps could be regarded as generator for CS:GO, as players are able to interact with them in many ways, and generators could stimulate signs which have two categories. According to Gee(2005), Social Semiotic spaces could be regarded as a group of internal signs, or external signs which indicate people's engagement (p. 5). Players can trade their guns, switch between different guns, and paint graffiti everywhere on the maps. Those are

internal signs which mean behaviors players can perform in the game are generated by game elements. However, the formation of enormous online community websites where players discuss about trading and strategies would be result of external signs. Moreover, “internal grammar” and “external grammar” are two crucial elements for Social Semiotic spaces. In CS:GO online community, “internal grammar” would be the main content that there are two opposing teams terrorists who plan to plant the bomb and counter-terrorists who design to defuse the bomb. Under such settings, I would easily regard this game as a typical multiplayer shooting game. On the other side, how players perform and feel under the game environment helps to build the external grammar which is related to social practices. Players in CS:GO would discuss the content and changes that have been made outside of game environment. The last factor of social semiotic spaces is portals where people can get access to the game. In CS:GO, Steam could be regarded one of the major portal, as I have to keep Steam on in order to activate the game. The disk which my game located would also be regarded as a portal. Moreover, as in CS:GO there are in-game softwares to support me build my own maps, portal also serve function as generator at this time. CS:GO is a very complete system of social semiotic spaces, as it obtains the four key features. More importantly, enormous players engaging in this game pushing the development of outside-game activity like forums and E-sports competition. Therefore, it has both internal well-designed game experience and external spread-out social influence on players.

How does features of Affinity space Promote Learning

It can be indicated that CS:GO online community is not just a social semiotic spaces but also an affinity space according to its game features. Firstly, CS:GO players have a common

shared place. In other words, players will not be separated by race, gender, disability or any external factors. These various background of players will not become barriers to break such a large community into small groups. The only factor driven players to play together is a same goal, common interest for this game. Not only post no discrimination for backgrounds, CS:GO also allow new players and master players in the same lobby. There is no restrictions on choosing teammates to play with which means two players do not have to obtain similar ranks in game.

However in the competitive mode, the game tend to match players with similar skill levels instead of randomly pick. This game also promote tacit knowledge which means knowledge players have built up in practice but hard to explained by words. For example, if the maps are designed to be a hostage rescue one. The terrorist team usually do not need to rush to police's base, but should stay with hostage as police will eventually come. This could be regarded as a most classical and efficient strategy, so when playing this kind of maps, communication is not necessary as every player know how to win. Other example of tacit knowledge would be when two players in a team try to rush to other team, they have to cover each other and sometimes stick their backs together to prevent enemy from shooting in any direction. After the game, players are able to discuss about the strategy they used and how to improve for the next time. Lastly, leadership is crucial to learning process. A leader can learn this game much faster and efficient than others as he/she must have a control on the overall situation. CS:GO does not require such a leader in game, but they are the beneficial resources. For themselves, their ability to organize the big picture and maintain a main strategy will help them improve in this game. For others, such people usually appear to be experienced and skillful, so they can learn from those

leaders about how they understand and play this game. Online CS:GO community also obtained other features such as encouraging distributed knowledge and extensive knowledge to help players in their learning processes.

Game Learning and Gee's 13 Principles

Counter-Strike: Global Offensive is well matched with Gee's 13 Principles, which relate to three aspects: "Empowering Learners", "Problem Solving" and "Deep Understanding"(Gee, 2014). Principles under each of the aspects will be further discussed.

Empowering Learners

Co-design.

According to Gee(2015), Interactive game allow player to create new features and change the world they are playing under (p.3). In other words, inspirations from the players can enrich game environment and keep improving the game. CS:GO allow players to customize the game by making new maps themselves. This map editor can be accessed under "Library" tab in Steam by choosing "Counter-Strike: Global Offensive - SDK". After finished downloading process, CS:GO players are able to use such a graphical design software to create a map they like with different space structures and settings in the environment. The self-designed maps can easily implement to the actual game by typing a simple line of code and then players can cooperate with friends using their own maps. Designing such a map not only requires a sense of space and depth from artistic perspective, but also can be regarded as the illustration of a player's understanding to this game. Co-design no doubts motivates the learning process by helping players engage in the game, visualizing how their creative thoughts accomplished in game and also giving a sense of accomplishment to players.

Customize.

Players are able to customize the game by playing with bots in different skill levels or choose a map they have been familiar with. Different people requires different styles and paces of learning(Gee, 2015, p.3). In other words, customization is important in game learning, as players can make choices on how fast their learning process will be. Unlike some of the games that provide training for new players only once, CS:GO offers a training field where players can always go to practise their skills. Players are allowed to work with different skilled level bots, choose different maps and even change the gravity index to make them jump higher. As a newbie for this game, I can only focus on practising one map in this game. Because counter-terrorist team and terrorist team have different weapons, I can also play same role every time before making progress.

The learning pace is controlled by no one but players themselves.

Identity.

According to Gee(2015), good game build connection with roles it offers to players and players themselves (p.3). Therefore, players will not feel they are living others' lives but put themselves into characters they play. Many factors promote such a deep investment on players such as three dimensional graphical quality and first-person angle. This game often reminds me of a series of terrorist attack such as " 1993 World Trade Center bombing" and " September 11 attacks ", as the costumes and some characters of in CS:GO looks very similar to those Islamic terrorists who often appeared on website and newspaper. As a result of those close to real-life settings, I feel like I truly become a police on mission, and have great responsibility to maintain safety by preventing bomb from exploding.

Problem Solving

Well-ordered Problems

Good game offers puzzles to solve gradually, and those problems keep pushing the progress in game(Gee, 2015). In CS:GO, the first problem a player encounter will be purchasing suitable weapons. It seems like a simple puzzle, but actually there are many weapon choices with same price, similar functions. Players are also expected to finish this buying action as soon as possible. The next problem is shooting the enemies, normally there are two major routes to approach. For terrorists, they need to find appropriate to plant a bomb at last and once the bomb is planted, counter-terrorists have to diffuse it. Although each round in CS:GO is only two minutes. Under such a short time, players have to follow the steps in order to win. In other words, they solve a big problem by splitting to pieces of well-ordered small problems.

Pleasantly Frustrating

According to Gee (2005), learning process can be well achieved when a player face a acceptable challenge and feel pleasantly frustrating (p.6). In other words, the difficulty player has countered should not be either too easy or too hard to solve, but in an appropriate range. For example, I started CS:GO by playing with bots in different difficulty levels. However after a short period of time. I got bored with bots, and wanted to play with actual players. I didn't realize there was a big gap between these two modes of playing. I didn't kill anyone for thirty rounds, and was killed by others for numerous times. I felt frustrating as I thought I could kill the same amount of actual players as that of bots. Meanwhile, I felt a little excited because of difficulties I faced. Challenges trigger one's will. I started to look at this game in a whole new perspective. I didn't regard it as some kind of relaxing game, but a more intense and focus-needed task. After I

devoted more time to practise my skills, I could feel my improvement is significant.

Deep Understanding

System Thinking

According to Gee (2005), the learning behaviors can be greatly enhanced when players fit themselves into a big system which they play roles in (p.10). In other words, players are not only required to know what kind of roles they are playing, but also necessary to acknowledge the big circumstances. In CS:GO, there was a map with water surrounding the edge of this map. At first, I found that hiding in water could hardly be spot by any one. However, then I found there was damage caused to me gradually that could lead to death when I chose this hiding strategy. CS:GO did not advocate a passive shooter. For almost every place I hid, there would be a location with the angle to aim at me, which means there was not a completely safe zone on every map. Therefore, I knew that the game system advocated active shooter rather than passive hider. I would focus more on developing my shooting skills, stay in one place for very short period of time, and participate in teamwork. Understanding how the system want me to do greatly contributes my learning process and at the same time help me better play my roles in CS:GO.

Game Representation and Appeal

Character s are one of the major contents in game representation, and the main characters in the game would be terrorist and counter-terrorists. Counter-terrorists will wear identical uniform with camouflage helmet and face mask, which looks like stereotypical American police(*Figure 1)* . Therefore, it is very difficult to identify counter-terrorists figures without players' names shown as both their outfits and facial features appear to be really close. However, terrorists could be looked very unlike from each other in the way of hairstyles, different colors

shirts and facial expression. The nationalities of Terrorists varies, which also results in interesting accents in game. According to Gee(2005), the learning process will better achieved when people fit themselves into a large system which they are given a meaning. The identity of counter-terrorists which designed to be uniform and the terrorists who demonstrate more characteristics help to create a close-to-reality environment for players to fit their expectations and truly engage in this system. Besides characters, CS:GO also pay close attention to the design of the maps. With a three-dimensional view and high graphical quality, CS:GO plays can easily gain the sense of space and depth. Houses, trees, rubbish bins and all other details are all match with their scales and shapes in the real life.

Potential learning applications for the game and modifications

The only thing I am not satisfied with the character design would be the absence of female character in both teams. This is probably because designers tend to believe female characters would be hard to have a job in a counter-strike team, therefore adding such characters will make this game does not seem to be realistic. The lack of female characters lose points on inclusivity of the game. However, surprisingly many male players support this idea of developers. A top cited comment under this topic in Steam community for CS:GO is “If you add female models, radical feminists like Anita Sarkeesian would play it and say ‘This game encourages people to murder female characters! Were being oppressed!’ We don't want that, do we?” (Capybara of love, 2014). There is no doubt that CS:GO also have a huge population of female audience. For female players in community like me, we have a hard time find our identity inside the game. According to Gee(2005), a good game can bring resonation to players, which mean they will see themselves through characters in game. For example, some teenage players

desire to become a police in the future and enjoy the honor of being a hero. Therefore, they will find themselves in the characters of counter-terrorists who are on a dangerous mission. However, for a female player like me, I find it hard to put myself into a all men world. Although I am still be able to practice my skill, I don't show as much passion and desire to win as most of the male players.

Another aspect this game can improve would be customization. In the competitive mode, there has to be five players in each team. However, other shooting games do not tend to restrict the number of players, which mean a player are able to play with as many friends as he wants. With this number constraint, CS:GO results in separating players to several small teams that will never expand. Therefore, in order to encouraging interactions in a larger scale, this game should either create new mode for a large group of players who tend to play together or expand the size for each team in competitive mode. Not only the team size, CS:GO offers limited amount of maps and rarely updated with new maps. CS:GO players are able to create their own maps, but those maps are not for the public. Therefore, a solution would be choosing a top-played map designed by player and implementing to the real game which is open to the public. In this way, more CS:GO players would have the motivation to make a well-designed game, show their understanding for the game, and thus promote their learning process.

As almost all of the weapons in CS:GO exist in real life, players learn knowledge about speciality for each type of gun spontaneously. If someone wants to reach the master level, he/she should have a intensive and extensive knowledge on those weapons. For example, he/she will know how many shoots a gun need to kill an enemy, which will related to damage power; how a gun will affect his moving speed, which related to mobility index. Those numbers give a player

detailed information about which circumstances would be appropriate to use that gun. Besides gaining knowledge on military weapons. CS:GO also have a very high requirement on players' respon speed to emergency. At the moment of turning to another direction, a player will have a large possibility to be shoot from the back. Therefore, one has to stay focus on all time, keep calm and deal with emergency. This game also prepares players for leadership and speaking skills. Every team need a leader to give instructions to teammates, also his description for a particular point on map has to be precise and accurate due to the fast pace of the game.

Conclusion

Overall CS:GO is a well-designed first-person shooting game. It attracts a large amount of players and forming various online communities related to this game. Such a online game community satisfies both characteristics of social semiotic spaces and affinity space. It obtains generators, signs, grammar and portals, and each of them serve an important role in game playing. Moreover, it demonstrates several features of affinity space that contributes to players in their learning process. CS:GO can fit into almost all of the Gee's 13 principles which are divided to three categories. Gee would regard CS:GO as a "good game" according to his principles. Besides, its aesthetic value can also be highly appreciated as its settings are close to real life. The design of characters help players place themselves into the roles. A few suggestions would be based on inclusivity and customization of the game.

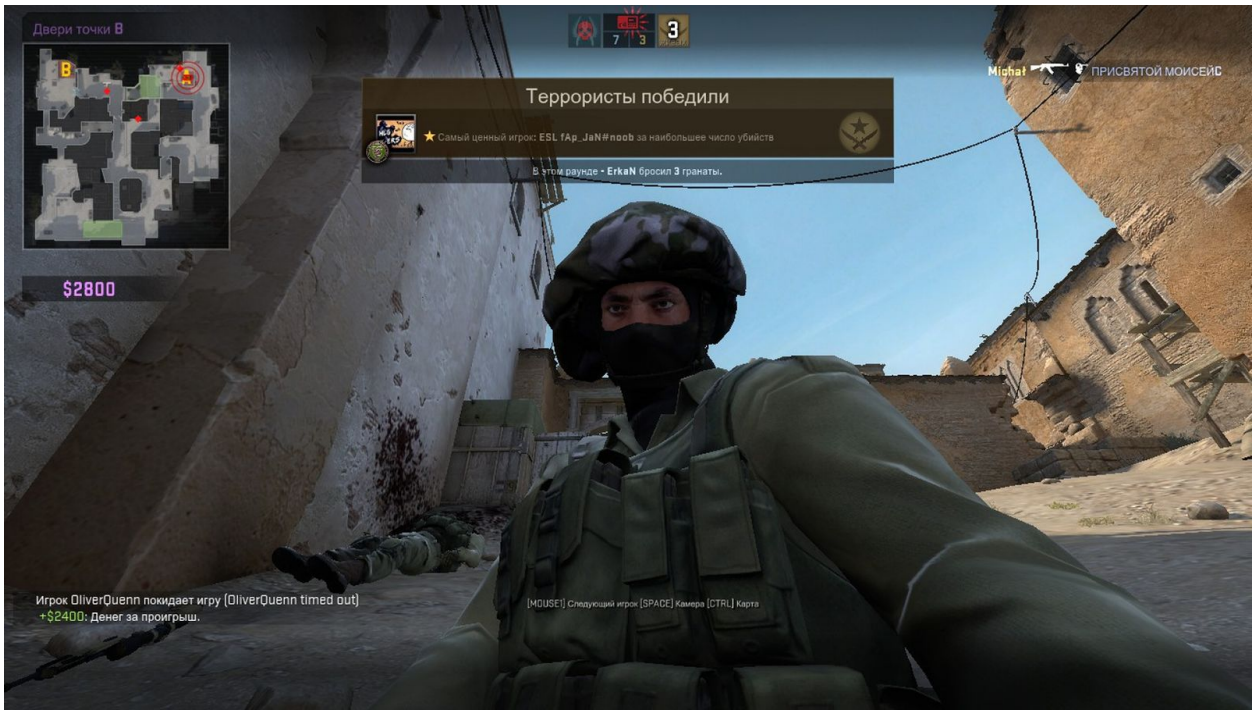

Figure 1. From "Counter-Strike: Global Offensive," by Dimad, n.d. (https://steamcommunity.com/app/730/screenshots/). 2017 by Valve Corporation.

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