CHAPTER III

METHODOLOGY

3.1. Data Collection Methodology

The research methodology in this thesis uses both quantitative and qualitative research.

1. Questionnaire

Questionnaire research is conducted online by spreading a questionnaire created using *Google Forms*, containing questions aimed towards those who have played *PlayerUnknown's Battlegrounds* and *Fortnite Battle Royale* at least once. The form is spread online through multiple social media platforms, both spread generally and specifically to battle royale game communities.

2. Literature Study

Literature study is done by reading and analyzing the contents of two books that center around game design. Data documentation is done by referencing the contents of the book that assist in analyzing both battle royale games.

3.1.1. Literature Study

The main literature studied in this thesis is Tracy Fullerton's *Game Design Workshop: A Playcentric Approach to Creating Innovative Games* (2008). Fullerton's game theory, particularly the formal elements section, is used as the basis to analyze the gameplay of battle royale games, and the books stand as the basis for analyzing video games in two different ways. Fullerton's *Game Design*

Workshop details more about the modern, conventional form of games, such as traditional games played using playing cards, or modern era video games. The detail delved in Fullerton's theories is useful in the context of the battle royale genre, which is a very recent phenomenon in games.

3.1.2. Questionnaire

Questionnaire is done using the random sampling method, using the Slovin Formula to determine sample numbers. Done by spreading online questionnaire through *Google Forms*, in order to obtain data regarding players' opinions on battle royale games and their habits when playing battle royale games, their overall experience playing battle royale games. Sample is drawn from members of Indonesian Fortnite and *PUBG* communities. Drawing a sample from a population of 25.061 people with an accuracy of 90%, the Slovin Formula is used to find the target sample number as follows:

$$n = 25.061 / (1 + 25.061 * 0.1^2)$$

$$= 99.6$$

$$= 100 \text{ respondents}$$

The questionnaire is focused towards gathering data to confirm the theory that the core gameplay elements of both games, and the gameplay elements unique to each game, are important for the games' lenticular design. According to Hornshaw (2019), a battle royale game's core gameplay elements are it's large game world, players beginning with no resource, random resources players can loot, and a barrier forcing players closer to each other in the game world.

The questionnaire received 101 responses in total. Out of those responses, 79.2% and 73.3% respondents lean towards agreeing that their perspective on gameplay elements such as weapons and items go through a change in proportion to their game knowledge and mechanical skill respectively, while 13.8% and 16.8% respectively lean towards disagreement. 82.2% of respondents also lean towards agreeing that their knowledge of the game world grows as they play the game more often, and it affects their perspective on the game, while 10.9% disagree. 57.5% agree that they had difficulties the freefalling before each game session begins, before improving at it with experience, while 27.7% disagree with the notion. This shows that respondents generally agree that these are the gameplay elements which compose the games' lenticular design.

Respondents also generally believe that some gameplay elements assist in improving the flow of the game's lenticular design. Questionnaire data shows that 68.3% of respondents agree that the moving barrier which pushes players closer and closer to the center encourages them to move around in the game world rather than staying in one spot, which allows them to learn more about the game world simply by experience. 63.3% also agree that the fact that players don't start with any gameplay-affecting equipment allows them to get into the game faster as a beginner, without having to worry about which equipments are the most optimal.

In terms of unique gameplay elements to each game, respondents also generally agree that those gameplay elements play an important role in each game's lenticular design. In *PUBG*'s gameplay design, 77.2% of respondents agree that leaning is a gameplay procedure and mechanic which improves in quality and

efficiency as players understand more about what it does and how it affects them, while 77.3% agree that their understanding of weapon mods in the game affects their choice of weapons. Meanwhile, in *Fortnite*'s gameplay design, 74.2% of respondents agree that the game's construction mechanics – which is *Fortnite*'s most defining gameplay element – is a gameplay element which grows more important and significant to winning the game in the player's perspective as they understand more about the gameplay mechanic and it's possibilities.

3.2. Analysis Methodology

The two games that will be analyzed in this thesis are *Fortnite Battle Royale* (2017) and *PlayerUnknown's Battlegrounds* (2017). These two games are chosen because of their respective successes: *Fortnite Battle Royale* (2017) is the game with the highest peak concurrent players in the world with 8.3 million players by 2019 (McMahon, 2019), while *PlayerUnknown's Battlegrounds* (2017) is the game that first popularized the battle royale genre as a trend (Hornshaw, 2019), also achieving the second highest peak concurrent players on 2019 at 3.2 million players (McMahon, 2019). For a more accurate comparison and analysis, both games analyzed will be the *PC* versions.

For the gameplay and lenticular design analysis in this thesis, the gameplay will first be broken down using Fullerton's game design theory (2008), before being analyzed in terms of lenticular gameplay design using Mark Rosewater's lenticular design theory (2014). Fullerton's game design theory encapsulates three parts of game design: formal elements, dramatic elements, and system dynamics.

3.2.1. Fullerton's Game Theory

The formal elements of a game are the basic building blocks of the game that create it's playability (Fullerton, 2008); in other words, it's gameplay. Formal elements are comprised of multiple small elements rather than existing as a single concept. According to Fullerton, the formal elements that form a game are players, objectives, procedures, rules, resources, conflicts, boundaries, and outcomes. However, out of the eight formal elements, only three would be used to analyze the two games: the procedures, the rules, and the resources. These three formal elements are chosen because they are the elements that comprise the games' lenticular design, and that differ from each other enough to create a valid comparison to be analyzed.

3.2.1.1. Procedures

Procedures are the possible actions a player can make to achieve the objective. In an attempt to reach the game's objectives, players must abide to the game's procedures. These procedures can exist simply in the form of written rules, or rules coded into the design of the game itself in such a way that a player's actions are restricted to following that procedure (Fullerton, 2008). Examples of game procedures are the moves coded into an action game's player character, where players are only able to use the moves that are designed into the game itself to achieve the game's objectives.

3.2.1.2. Rules

While procedures are explicitly what the players are allowed to do, a game's rules, and by extension it's mechanics, surround the entirety of the gameplay design. In

an action game, while procedures dictate that the player character will be allowed to run, jump, and attack, the game's rules dictate factors such as how fast the character will run, how high they will jump, how high the game world's gravity will be, and how much damage each attack from the player character will deal to the game's enemies (Fullerton, 2008).

3.2.1.3. Resources

Resources are game objects that contribute towards achieving the game's objectives. Resources exist in most games – even the most simple ones – and managing resource as optimally as possible is often paramount to success. Resources are a wide concept and have many examples, such as units, health, limited power-ups, and even time (Fullerton, 2008).

3.2.2. Rosewater's Lenticular Design Theory

As mentioned in the second chapter, Mark Rosewater (2014) divides complexity in *Magic* into three types: comprehension complexity, board complexity, and strategic complexity; each one referring to how a card in the game works, how a card interacts with others, and the ways a card can be used respectively. These three types of complexity can be applied to both battle royale games by redefining the context of the complexities from the cards of *Magic* to the procedures, rules, and resources of *Fortnite Battle Royale* (2017) and *PlayerUnknown's Battlegrounds* (2017).

Lenticular design is created based on the three complexities; a gameplay element can be considered lenticular when the way players view them changes

based on their understanding of one or more of the complexities, and the more drastically a player's image changes in proportion with their understanding, the more lenticular a gameplay element is.