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## CHAPTER III

### RESEARCH METHODOLOGY

#### A. Research Design

This study employs a quantitative method with the correlation design to investigate between gameplay frequency (X) and reading interest (Y). Grounded in Creswell (2012:338) correlational research refers to a non-experimental method used to identify and measure the degree of association between two or more variables, where the researcher does not manipulate any of the variables under study. Instead, the variables are observed as they naturally occur to determine whether a statistical relationship exists between them, the design operationalizes gameplay as a source of "comprehensible input" through *Honkai Star Rail*'s narrative-driven texts. A structured questionnaire adapted from Gentile et al. (2011:322) measures weekly gameplay hours, types of in-game texts engaged with (e.g., dialogues, item descriptions), and participation frequency in the *Perserikatan Firefly* WhatsApp group.

#### B. Location and Time

This study was conducted within the *Perserikatan Firefly* WhatsApp Group, a digital community comprising members primarily based in Indonesia who shared an interest in *Honkai Star Rail*. The group operated virtually, with interactions centered around discussions of *Honkai Star Rail* gameplay, strategies, and narrative lore analysis. The research period took place from May to August 2025.

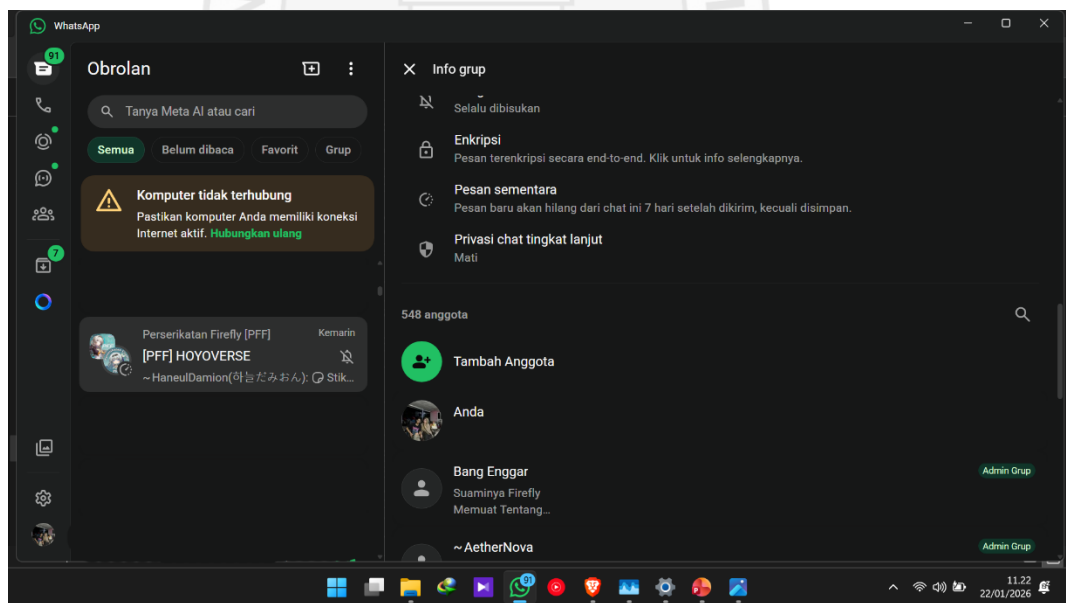


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## C. Population and Sample

### 1. Population

According to Creswell (2018:142), a population refers to “the entire group of individuals or objects to which the research findings will generalize.” For this study, the population comprises all active members of the *Perserikatan Firefly* WhatsApp Group, a digital community of *Honkai Star Rail* enthusiasts who engage in English-mediated discussions about gameplay, strategies, and narrative analysis. This group was selected due to its members’ consistent exposure to in-game English texts and their participation in collaborative language practices, aligning with Gee’s (2020:92) concept of “affinity spaces” where shared interests drive learning.



Total Population on the Perserikatan Firefly Group.

### 2. Sample

Creswell (2018:155) define a sample as “a subset of the population selected to represent the broader group in a study.” This research employs



purposive sampling, a method where participants are chosen based on predefined criteria relevant to the study's objectives (Etikan et al., 2016:2). The criteria include :

1. Active participation in *Honkai Star Rail* gameplay ( $\geq 5$  hours/week).
2. Regular engagement in WhatsApp group discussions ( $\geq 3$  posts/week).
3. Willingness to complete questionnaires given.

From the population of 548 active group members, 99 participants meeting these criteria will be selected. This sample size ensures a balance between depth of analysis and feasibility, as recommended by Creswell (2014:207) for correlation studies. The purposive approach allows the researcher to focus on individuals whose experiences directly reflect the correlation between gameplay frequency and reading interest, thereby enhancing the validity of findings (Bryman, 2016:184).

The process begins by using a voting mechanism within the group to identify eligible members who align with the established indicators. This can be implemented through a poll, asking members to self-report their gameplay habits and reading practices. Based on these responses, individuals who meet the criteria will be identified. From this pool, 99 participants will be purposively selected to ensure balanced representation.

**Table III.1. Population and Sample of the Research**

| GROUP                | POPULATION | SAMPLE |
|----------------------|------------|--------|
| Perserikatan Firefly | 548        | 99     |



## D. Research Instrument

This study employs a quantitative correlation approach to investigate the relationship between *Honkai Star Rail* gameplay frequency and English reading interest, utilizing questionnaire adapted from Dörnyei and Taguchi's (2010:6) framework for digital engagement surveys, the questionnaire assesses gameplay habits and reading interest. It includes Likert-scale items (1–5) and open-ended questions, structured around two key indicators :

**Table III.2. The Blue Print of Frequency Of Playing Online Game Honkai Star Rail Instrument**

| Aspect                                       | Indicator                                                                                                                                                                                           | Total Items | Item Number |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|
| Regularity and Duration of Gameplay Sessions | Total hours spent playing per day or week serves as a foundational metric. For example, players engaging $\geq 10$ hours weekly encounter repetitive vocabulary (e.g., "Stellaron," "Pathstrider"). | 8           | 1 - 8       |
| Intensity of In-Game Interaction             | Frequency of reading in-game texts determines language exposure depth.                                                                                                                              | 10          | 9 - 18      |
| Contextual and Social Integration            | Use of supplementary resources (e.g., wikis, forums) to decode game lore extends language exposure.                                                                                                 | 9           | 19 - 27     |
| Cognitive and Behavioral Outcomes            | Adoption of game-specific terms (e.g., "Aeons") into non-gaming contexts reflects lexical internalization.                                                                                          | 8           | 28 - 35     |
| <b>Total</b>                                 |                                                                                                                                                                                                     | <b>35</b>   |             |

*Adopted from Gentile et al. (2011:322)*

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**Table III.3. The Blue Print of Reading Interest Instrument**

| No | Aspect               | Indicator                                                   | Total Items | Item Numbers |
|----|----------------------|-------------------------------------------------------------|-------------|--------------|
| 1  | Situational Interest | a. Spending spare time by reading English Text              | 3           | 1 - 3        |
|    |                      | b. Reading a tale                                           | 3           | 4 - 6        |
|    |                      | c. Reading some topic related to English subject            | 3           | 7 - 9        |
|    |                      | d. Reading for information                                  | 3           | 10 - 12      |
| 2  | Individual interest  | a. Feeling bored while reading                              | 2           | 13- 14       |
|    |                      | b. Feeling curious before reading                           | 2           | 15 -16       |
|    |                      | c. Feeling difficult to understand the text.                | 2           | 17 - 18      |
|    |                      | d. Feeling not enthusiastic about doing reading activities. | 2           | 19 - 20      |
|    |                      | e. Feeling positive attitudes to do reading activities      | 2           | 21 - 22      |
|    |                      | f. Trying to figure out the troubles when reading.          | 2           | 23- 24       |
|    |                      | g. Feeling uninteresting to read English text.              | 1           | 25           |
|    | <b>Total</b>         |                                                             |             | <b>25</b>    |

*Adapted from Hidi (2001) in Dewi Purnamasari (2021:32)*

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## E. Data Collection Technique

To examine the correlation between *Honkai Star Rail* gameplay frequency and English reading interest, data will be collected via a Google Forms questionnaire structured around the two blueprint indicators. The instrument, adapted from Dörnyei and Taguchi's (2010:6) framework for digital engagement surveys, includes total 60 Likert-scale items (1–5) divided into 35 & 25 items. The questionnaire integrates direct quotations from in-game texts to contextualize vocabulary recognition tasks, aligning with Nation's (2020:45) emphasis on incidental learning.

## F. Data Analysis Technique

The data analysis technique employed in this study is a correlational quantitative analysis, designed to systematically examine the relationship between the frequency of playing *Honkai Star Rail* (Variable X) and English reading interest (Variable Y). The process will unfold in three sequential stages, utilizing IBM SPSS Statistics 27 software to ensure precision, reliability, and adherence to statistical best practices.

### 1. Validity and Reliability of the Instrument

#### a. Validity of Instrument

Validity is the most important characteristics of a test whether the test measures what is intended to be measured. A validity test is conducted to determine if the questions in a questionnaire are legitimate and sound. It's crucial for assessing how well a test accurately measures the variable it's designed to measure.



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To determine whether the questionnaire is valid or not, the value  $r_{\text{observed}}$  is compared with  $r_{\text{table}}$ .

If the value of  $r_{\text{observed}} > r_{\text{table}} = \text{valid}$

If the value of  $r_{\text{observed}} < r_{\text{table}} = \text{invalid}$

## b. Reliability of Instrument

Reliability refers to the consistency of measurement, that is, how consistent the test scores or other assessment results are from one measurement to another. It means that reliability is used to measure the quality of the test scores and the consistency of the test.

To measure whether a statement is reliable or not reliable, it is done by comparing the value of *Alpha Cronbach*/ $r_{\text{alpha}}$  with  $r_{\text{critical}}$ . If  $r_{\text{alpha}} > r_{\text{critical}}$  means that the statement item is reliable, conversely if  $r_{\text{alpha}} < r_{\text{critical}}$  then the statement item is declared unreliable.

## 2. Normality and Linearity Test

### a. Normality Test

The normality test was conducted to determine whether the data distribution of each variable followed a normal curve. Normal distribution is one of the basic assumptions in parametric statistical tests, including Pearson's correlation. If the data are normally distributed, the results of the correlation test can be considered valid and reliable.

In this study, the normality test was analyzed using the Kolmogorov-Smirnov test. The Asymp. Sig. (2-tailed) was compared with the threshold of



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**0.05.** If the significance value is greater than **0.05**, it indicates that the data are normally distributed. Conversely, if the value is less than **0.05**, the data deviate from normality. Normal data distribution is important because it ensures that the statistical analysis can accurately represent the relationship between variables

#### b. Linearity Test

The linearity test was performed to examine whether the relationship between the two variables frequency of playing *Honkai Star Rail* and Reading Interest was linear. Linearity means that changes in one variable correspond proportionally to changes in the other variable, either in a positive or negative direction. This test is crucial because Pearson's correlation assumes a linear relationship between variables.

The test was carried out using the ANOVA Table in the SPSS 27 linearity test output. If the significance value for linearity is greater than **0.05**, it means that the relationship between the two variables can be considered linear. A linear relationship allows the correlation analysis to provide an accurate measurement of the strength and direction of the association. Without linearity, the correlation coefficient may not appropriately represent the true relationship between the variables.

### 3. Correlation Test

To analyze the correlation between *Honkai Star Rail* gameplay frequency and English reading interest, this study employs Pearson's correlation coefficient (Pearson's  $r$ ), a statistical measure assessing the strength



and direction of linear relationships between two variables (Field, 2018:232). Quantitative data from the Likert-scale questionnaire will be coded numerically (1–5 scale) and analyzed using SPSS 27 software. For instance, responses to the Likert-scale items are quantified as follows :

**Table III.4. Score of Likert Scale**

| Scale             | Score |
|-------------------|-------|
| Strongly Disagree | 1     |
| Disagree          | 2     |
| Neutral           | 3     |
| Agree             | 4     |
| Strongly Agree    | 5     |

The formula will determine whether increased gameplay frequency (Variable X) correlates with higher reading Interest (Variable Y). The classification of correlation coefficient results using Pearson’s formula is adopted by Vasantadjaja (2020) in Nur Aisyah Karim (2024:28) as follows :



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**Table III.5. Score of Pearson Correlation**

|                |                                    |
|----------------|------------------------------------|
| .70 or higher  | A solid positive relationship      |
| .40 to .69     | Strong positive relationship       |
| .30 to .39     | Moderate positive relationship     |
| .20 to .29     | Weak positive relationship         |
| .01 to .19     | No or negligible relationship      |
| 0              | No relationship (zero correlation) |
| -.01 to -.19   | No or negligible relationship      |
| -.20 to -.29   | Weak negative relationship         |
| -.30 to -.39   | Moderate negative relationship     |
| -.40 to -.69   | Strong negative relationship       |
| -.70 or higher | A solid negative relationship      |

*Adapted Vasantadja (2020) in Dewi Purnamasari (2021:28)*