CHAPTER III

RESEARCH METHODOLOGY

A. Method of Research

According to Creswell (2019), research is a process of steps used to collect and analyze information to increase our understanding of a topic or issue. In line with this, the present study employs a quantitative descriptive, quasai experimental design to investigate the effectiveness of Blooket as a gamification tool in enhancing reading comprehension among eighth-grade students. This approach chosen because it enables the researcher to systematically measure and describe the impact of Blooket on students' reading comprehension using numerical data and analysis. By utilizing structured instruments, the study provided an objective representation of students' learning outcomes. This research conducted in SMP Negeri 13 OKU. This school was chosen because it was accessible. This study use the instrument : reading comprehension test and questionnaire. The reason is to compare the result before and after treatment. The items were designed related to the students' reading comprehension skill and students' perception.

Table 3.1 Design of Research

Group	Pre-test	Treatment	Post-test
Experiment	O1	X	O2
Control	O3	-	O4

Source : Arikunto (2014)

B. Operational Definition

The title of this research is “The Effectiveness of Blooket as a Gamification Tool in Enhancing Students’ Reading Comprehension of Eight Grade Students at SMP Negeri 13 OKU”. There are several terms that need to be explain.

1. Blooket

Blooket is a free website offering educational games for practice and study. The games are categorized based on subject, grade level, and theme. Blooket is utilized for evaluations, including live quizzes and assignments (Hadi & Romadhon, 2022). A Blooket differed from other quiz platforms, such as Quizizz, Wordwall, and Kahoot. Blooket employs innovative play tactics to challenge quizzes and boost students' cognitive abilities

2. Reading Comprehension

Reading comprehension is the ability to understanding the implied information present in the text. Reading comprehension is the ability of the reader to fully grasp the reading content and the author's intended meaning in view of their past knowledge (Nur, 2024).

C. Population and Sample

1. Population

The Population is the group of interest to the researcher, the group to whom the researcher would like to generalize the result of the study. Cresswell (2019), stated that a population is a collection of persons who have the same characteristics. It is a large group to which a researcher wants

to generalize his or her sample result. The population of this study was all of the 8th grade students at SMP Negeri 13 OKU. There were 337 students.

Table 3.2 Population of study

No	Class	Number of Students
1	8.1	32
2	8.2	30
3	8.3	28
4	8.4	32
5	8.5	30
6	8.6	31
7	8.7	32
8	8.8	31
9	8.9	30
10	8.10	30
11	8.11	31
Total		**337**

(Source : SMP Negeri 13 OKU, Academic Year 2023/2024)

2. Sample

According to Cresswell (2019), a sample in a research study is a subgroup of the target population that the researcher plans to study for generalizing about the target population. It means that good sample must be representative of the entire population as possible. A sample is small proportion of population selected for the study In this study, a purposive

sampling technique is used to select the participants. Two classes were chosen intentionally because the learning material taught by the teacher has already been completed, making it suitable to conduct the research. The other classes is not selected as the material has not yet been finished, which may affect the consistency of the data. To conduct the study, the researcher divided the participants into three groups: tryout group, **the experimental group, and the control group.** The **experimental group** had been taught using Blooket as a gamification tool, while the **control group** had received conventional instruction without Blooket. Both groups undergo a **pre-test and post-test** to measure any improvements in reading comprehension. The details of the sample groups are presented in the table below:

Table 3.3 Sample Distribution of Experimental and Control Groups

Group	**Treatment**	**Numbers of Students**	**Assessment Method**
Experimental Group	Learning with Blooket	28 Students (class 8.3)	Pre-test, Post-test, questionnaire
Control Group	Conventional learning	32 Students (class 8.4)	Pre-test, Post-test
Tryout Group	-	32 Students (Class 8.1)	Tryout

3. Site of Research

The location of the research was at SMP Negeri 13 OKU, the address is at Jl. Padat Karya, Air Paoh, Kec. Baturaja Timur, Kab. Ogan Komering Ulu, Prov. Sumatera Selatan.

D. Variables of Research

Everything in any form that the researcher choose to study in order to gather knowledge about it before drawing a conclusion is referred to as a research variable. This study is comprised of two variables:

1. Independet Variable (X)

   The term "independent variable" refers to a variable that either causes or influences the emergence or change of the dependent variable (Sugiyono, 2019). The independent variable of this research is the use of Blooket.

2. Dependent Variable (Y)

   The variable that is impacted by or the outcome of the independent factors is known as the dependent variable (Sugiyono, 2019). The dependent variable of this research is students' reading comprehension of the eight grade students.

E. Technique of Collecting Data

In collecting the data in this study, researcher used test to collect data. A test is a method for measuring a person's ability, knowledge, or performance in a particular domain.

1. Test

The researcher measured the students reading comprehension skill of eight grade students at SMP Negeri 13 OKU. The objectives of the test was to asses students'ability to identify specific information about recount text, identify main idea, pronoun reference and word meaning in reading passages. Before conducting the pre-test, some tryouts were conducted to examine the quality of the test items. The initial specification table was used to guide the development of the test before validity testing. There were 25 multiple-choice items in total, divided into four reading comprehension indicators, namely identify specific information assesed in 5 items, finding main idea assessed in 10 items, word meaning were evaluated in 5 items, while pronoun reference question were tested in 5 items. The reading texts and indicators were adapted from the students' English textbook to ensure relevance and alignment with the curriculum and online source.

Table 3.4 Specification of Test Items First Tryout

Objectives	**Reading Indicators**	**Number of Items**	**Total Items**
To find the students' ability in reading comprehension	Identify specific information about personal	3,8,13,18,23	5

for eight grade students at SMP Negeri 13 OKU	experience Identify main idea Word meaning Pronoun reference question	 1,2,6,7,11,12,16,17,21,22 5,10,15,20,25 4,9.14,19,24	 10 5 5
Total			25

After conducting the tryout, students' responses were analyzed to assess the validity of each test item. Items that did not meet the criteria were revised to improve the instrument's overall quality. The revised version still contained 25 multiple-choice items across four indicaotrs, namely 5 items on specific information, 10 on identify the main idea, 5 on word meaning, and 5 on pronoun reference. The following table presents the revised test specification after the first tryout.

Table 3.5 Specification of Test Items Second Tryout (Revision)

Objectives	Reading Indicators	Number of Items	Total Items
To find the students' ability in reading comprehension for eight grade students at SMP Negeri 13 OKU	Identify specific information about personal experience	2,3,7,8,12,13,17,18,22,23	10
	Identify main idea	1,6,11,16,21	5
	Word meaning	4,9,14,19,24	5
	Pronoun reference question	5,10,15,20,25	5
Total			25

After the revision process, the final version of the test was administered. The analysis showed that all items met the validity criteria,

indicating that the instrument was suitable for data collection. The total number of test items remained the same, with 25 multiple-choice questions divided into four reading comprehension indicators, namely specific information assesd in 13 items, identify main idea examined in 2 items, 5 items for pronoun reference and 5 items for word meaning. The following table displays the final test specification consisting of valid items used in the main study.

Table 3.6 Specification of Test Items Final Tryout

Objectives	**Reading Indicators**	**Number of Items**	**Total Items**
To find the students' ability in reading comprehension for eight grade students at SMP Negeri 13 OKU	Identify specific information about personal experience	1,2,3,6,7,8,11,12,13,17,18,22,23	13
	Identify main idea	16,21	2
	Word meaning	5,10,15,20,25	5

	Pronoun reference question	4,9,14,19,24	5
Total			25

2. Questionnaire

This study also conducted questionnaire as an instrument. According to **Sugiyono (2019)**, a questionnaire is a data collection technique conducted by providing a set of written questions or statements to respondents for them to answer. The questionnaire served as an additional instrument to gather students' perceptions of using **Blooket** in enhancing reading comprehension. In this study, the questionnaire used a **Likert scale** to measure students' perceptions of using **Blooket** in enhancing their reading comprehension. The **Likert scale** is a commonly used rating scale in surveys. It provides a quantitative measure of perceptions, making it easier to analyze patterns in responses. In this study, the Likert scale helps assess students' perceptions of Blooket through clearly defined categories. The scale consist of five levels: 1 (Strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree), and 5 (Strongly Agree). By using this **five-point Likert scale**, the study ensures a structured and measurable way to assess students' perspectives on **four key aspects: perceived**

usefulness asses in 3 item, questions of perceived ease of use in 2 items, attitude toward Blooket asking in 2 items, and asses overall satisfaction in the last 2 questions. The numerical responses analyzed statistically to determine overall trends, providing valuable insights into how students perceive Blooket's role in enhancing their reading comprehension.

Table 3.7 Specification of Questionnaire Items

Objectives	**Questionnaire Indicator**	**Number of Items**	**Total Items**
To compare the effectiveness of using Blooket as a gamification tool in enhancing students' reading comprehension of eight grade students at SMP Negeri 13 OKU	Perceived Usefulness	1,2,3	3
	Perceived ease of use	4,5	2
	Attitude Towards Blooket	6,7,8	3
	Overall Satisfication	9,10	2
Total			10

F. Instrument Validity

According to Sugiyono (2017), validity refers to the degree of accuracy between the data occurring in the research object and the data reported by the researcher. Therefore, valid data is data that does not differ from the actual data obtained from the research. In this study, content validity is applied, meaning that the test items should be representative and adequate to measure students' reading comprehension skills, specifically focusing on identifying main ideas, synonyms, and antonyms. Content validity is established when experts or professionals agree that the instrument logically and accurately reflects the intended construct. Thus, the test used in this research is validated based on expert judgment to ensure it appropriately measures the students' reading comprehension in line with the objectives of the study. This study uses the *kolmogrov-smirnov* test on IBM SPSS. The criteria for taking the hypothesis of the *kolmogrov-smirnov* test: a) if sig < 0,05 The null hypothesis (H0) is valid and b) if sig > 0,05 The null hypothesis (H0) is not valid.

1. Test

Table 3.8 The Validity of Test

Item Number	Pearson Correlation	R-Table	Sig. (2 Tailed)	Result
1	-0,081	0,374	0,676	INVALID
2	0,017	0,374	0,929	INVALID

3	0,034	0,374	0,861	INVALID
4	0,409	0,374	0,028	VALID
5	0,469	0,374	0,010	VALID
6	0,370	0,374	0,048	VALID
7	0,210	0,374	0,274	INVALID
8	0,306	0,374	0,106	INVALID
9	0,249	0,374	0,193	INVALID
10	0,180	0,374	0,351	INVALID
11	0,039	0,374	0,841	INVALID
12	0,126	0,374	0,516	INVALID
13	0,217	0,374	0,258	INVALID
14	-0,054	0,374	0,782	INVALID
15	0,393	0,374	0,035	VALID
16	0,316	0,374	0,095	INVALID
17	0,463	0,374	0,012	VALID
18	0,193	0,374	0,315	INVALID
19	0,599	0,374	0,001	VALID
20	0,585	0,374	0,001	VALID
21	0,151	0,374	0,453	INVALID
22	0,311	0,374	0,101	INVALID
23	0,578	0,374	0,001	VALID
24	0,160	0,374	0,407	INVALID

25	0,353	0,374	0,060	INVALID

In the first tryout of the test instrument conducted in class 8.1 on Monday, April 21st 2025 with a total of 25 items were analyzed using Pearson correlation to examine their content validity. The analysis showed that only 8 items met the criteria for validity, with significance values below 0.05 and acceptable correlation levels. These valid items included item numbers 4, 5, 6, 15, 17, 19, 20, 23. Meanwhile, the remaining 17 items were categorized as not valid due to either high significance values or low correlation scores.

Table 3.9 The Validity of Test First Revision

Item Number	Pearson Correlation	R-Table	Sig. (2 Tailed)	Result
1	0,028	0,374	0,889	INVALID
2	.	0,374	.	INVALID
3	0,233	0,374	0,241	INVALID
4	0,805	0,374	0,000	VALID
5	0,762	0,374	0,000	VALID
6	0,185	0,374	0,335	INVALID
7	0,297	0,374	0,133	INVALID
8	0,360	0,374	0,065	INVALID
9	0,757	0,374	0,000	VALID
10	0,219	0,374	0,272	INVALID

11	0,204	0,374	0,309	INVALID
12	0,494	0,374	0,009	VALID
13	0,805	0,374	0,000	VALID
14	0,725	0,374	0,000	VALID
15	0,587	0,374	0,001	VALID
16	0,387	0,374	0,046	VALID
17	0,762	0,374	0,000	VALID
18	.	0,374	.	INVALID
19	0,506	0,374	0,007	VALID
20	0,480	0,374	0,001	VALID
21	0,506	0,374	0,007	VALID
22	0,784	0,374	0,000	VALID
23	0,545	0,374	0,003	VALID
24	0,506	0,374	0,007	VALID
25	0,534	0,374	0,004	VALID

In the second tryout of the test instrument, conducted again in class 8.1 after revising the items from the first trial on Saturday, April 26th 2025. The analysis using Pearson correlation showed significant improvement in the validity of the test items. Out of the 25 items tested, 17 were found to be valid based on the correlation values exceeding the R-table value (0.381) and the significance (2-tailed) being below 0.05. These items included numbers 4, 5, 9, 12, 13, 14, 15, 16,

17, 19, 20, 21, 22, 23, 24, and 25. Only 8 items—specifically items 1, 2, 3, 6, 7, 8, 10, 11, and 18—remained not valid.

Table 3.10 The Validity of Test Second Revision

Item Number	Pearson Correlation	R-Table	Sig. (2 Tailed)	Result
1	0,911	0,374	0,000	VALID
2	0,836	0,374	0,000	VALID
3	0,861	0,374	0,000	VALID
4	0,947	0,374	0,000	VALID
5	0,642	0,374	0,000	VALID
6	0,886	0,374	0,000	VALID
7	0,836	0,374	0,000	VALID
8	0,861	0,374	0,000	VALID
9	0,629	0,374	0,000	VALID
10	0,947	0,374	0,000	VALID
11	0,947	0,374	0,000	VALID
12	0,392	0,374	0,043	VALID
13	0,656	0,374	0,000	VALID
14	0,651	0,374	0,000	VALID
15	0,632	0,374	0,000	VALID
16	0,842	0,374	0,000	VALID
17	0,669	0,374	0,000	VALID

18	0,911	0,374	0,000	VALID
19	0,561	0,374	0,002	VALID
20	0,550	0,374	0,003	VALID
21	0,643	0,374	0,000	VALID
22	0,841	0,374	0,000	VALID
23	0,550	0,374	0,003	VALID
24	0,561	0,374	0,002	VALID
25	0,614	0,374	0,001	VALID

In the third trial of the reading comprehension test conducted on Monday, April 28th 2025, all 25 items were declared **valid**. This was determined by comparing the Pearson correlation values of each item to the R-table value of 0.374, with all items showing a **significance (2-tailed) value below 0.05**, indicating a statistically significant correlation.

2. Questionnaire

Table 3.11 The Validity of Questionnaire

Item Number	Initial	Extraction	Result
1	1,000	0,762	VALID
2	1,000	0,836	VALID
3	1,000	0,896	VALID
4	1,000	0,896	VALID
5	1,000	0,879	VALID

6	1,000	0,896	VALID
7	1,000	0,899	VALID
8	1,000	0,534	VALID
9	1,000	0,590	VALID
10	1,000	0,762	VALID

To test the construct validity of the questionnaire, factor analysis was conducted using Principal Component Analysis. The results from the Communalities table show that all ten items have extraction values above 0.5, which means they are valid and contribute well to the factor structure. The highest extraction value was found in item 7 (0.899), showing a strong connection to the extracted factor. Meanwhile, the lowest value was from item 8 (0.534), but it still meets the minimum requirement of 0.5. Therefore, all items are considered valid and appropriate for measuring students' perspectives on the use of Blooket in reading comprehension. In conclusion, most items in the questionnaire are valid and useful for measuring students' perception of using Blooket in reading comprehension. Only one item is a bit low and may need revision.

G. Instrument Reliability

Reliability is concerned with the consistency and stability of data or findings. According to Sugiyono (2017), data is considered reliable when two or more researchers, using the same object of study, produce the same data or do not show different results. Reliability means that scores from an instrument are stable and consistent, (Cresswell, 2019). In this research,

reliability ensures that the pre-test and post-test used to measure students' reading comprehension abilities, particularly in identifying main ideas, synonyms, and antonyms, yield consistent results. This consistency is critical to attributing changes in students' performance to the intervention (Blooket) and not to variations in the test itself. High or low reliability is empirically indicated by a number called the reliability coefficient. High reliability is indicated by an rxx value close to 1. The general consensus is that reliability is considered satisfactory if it is ≥ 0.700 (Sanaki et al 2021). If the alpha value is > 0.7, it means sufficient reliability, while if alpha > 0.80, it implies that all items are reliable and the entire test consistently has strong reliability. Or, there are also those who interpret it as follows: If alpha > 0.90, then reliability is perfect. If alpha is between 0.70 and 0.90, then reliability is high.If alpha is 0.50–0.70, then reliability is moderate.If alpha < 0.50, then reliability is low. If alpha is low, it is likely that one or more items are not reliable.

The formula for finding reliability is as follows:

$$r = \frac{an(\Sigma AB) - (\Sigma A)(\Sigma B)}{\sqrt{((n\Sigma A^2) - (\Sigma A)^2)(n(\Sigma B^2) - (\Sigma B)^2)}}$$

Source : Pramuaji and Loekmono (2018)

Description :

R= correlation coefficient

N= number of respondents

A= odd question item score

B= even question score

After knowing the correlation coefficient, the results are entered into theSpearman-Brown formula with the formula:

$$r = \frac{a2rb}{b1 + rb}$$

Description :

R= reliability value

Rb= the product moment correlation between the first hemisphere (odd) and the secomd hemisphere.

1. Test

Table 3.12 Reliability Instrument of Test

Reliability Statistics

Cronbach's Alpha	N of Items
,761	26

To determine the reliability of the research instrument, a reliability test was conducted using Cronbach's Alpha with SPSS. The instrument consists of 26 items. Based on the analysis, the result shows that the total Cronbach's Alpha value is **0.761**. According to the commonly accepted interpretation of reliability coefficients, a Cronbach's Alpha value above 0.7 indicates that the instrument has **acceptable internal consistency**. Therefore, it can be concluded that the instrument used in this research is **reliable** and consistent for measuring the intended variable.

2. Questionnaire

Table 3.13 Reliability Instrument of Questionnaire

Case Processing Summary

		N	%
Cases	Valid	28	100,0
	Excluded[a]	0	,0
	Total	28	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,825	11

Based on the analysis, the result shows that the total Cronbach's Alpha value is **0.886**. According to the commonly accepted interpretation of reliability coefficients, a Cronbach's Alpha value above 0.7 indicates that the instrument has **acceptable internal consistency**. Therefore, it can be concluded that the instrument used in this research is **reliable** and consistent for measuring the intended variables

H. Techniques for Analyzing Data

Researchers conduct quasai experimental design using two groups on teaching reading comprehension using Blooket as a gamification tool to know

the effectiveness of eight grade students at SMP Negeri 13 OKU. In analyzing data, researcher used a descriptive quantitative approach. Numbers are used in quantitative ways to summarize data. In this study the researcher use Independent Sample T-test to compare between two different grous. Before the research starts, hypotheses and data gathering strategies are developed. This method is employed to determine the reading comprehension score of each cycle's students. Software or SPSS 25 programme use to examine the research's data.

1. Scoring the students' test

$$S = \frac{R}{N} \times 100$$

Notes :

S = Score of the test

R = Number of correct answer

N = Number of question

Table 3.14

Passing Grade of a Students' Reading Comprehension

No	Score	Classification
1	81-100	Very Good
2	61-80	Good
3	41-60	Fair
4	21-40	Poor

5	0-20	Very Poor

Source : Awaliah (2020)

2. Normality Test

The researcher used normality test to find out and measured the data obtained normally or not. The researcher analyzed the data after getting the score of pre-test and post-test in experimental group. The researcher used SPSS version 25 (*Shapiro-Wilk*) together result of the investigation in order to know the significance the treatment test. The hypotheses proposed in this study are as follows:

Ho : Normally distributed data

Ha : Data is abnormally distributed

This study used the *Shapiro-Wilk* test on IBM SPSS. The criteria for taking the hypothesis of the *Shapiro-Wilk* test:

a. if sig < 0,05 The null hypothesis (H0) is rejected

b. if sig > 0,05 The null hypothesis (H0) is accepted

3. Comparing the score test

To determine the effectiveness of Blooket in enhancing students' reading comprehension, the researcher compared the post-test scores between the experimental group and the control group. The **Independent Samples t-test** was chosen because it was applied to assess whether is it effective using Blooket in enhancing students' reading comprehension. This test was used to examine whether there was a statistically significant difference in the reading

comprehension scores between students who were taught using Blooket and those who received traditional instruction. A significance level (α) of 0.05 was used, meaning that if the p-value obtained from the test is less than 0.05, the null hypothesis is rejected, indicating that the difference between the two groups is statistically significant. If the p-value is greater than 0.05, it means the difference occurred by chance, and the null hypothesis is accepted (Nuryadi et al, 2017).

4. The questionnaire data in this study analyzed using descriptive quantitative statistical methods to interpret students' perceptions of using Blooket in enhancing reading comprehension. The researcher used a computer program SPSS. The data analysis results presented in a printout table of multiple regression analysis. To get the percentage of the questionnaire, the researcher used the formula from Yanti and Aneta (2022) as follow:

$$P = \frac{F}{N} \text{ X } 100\%$$

Where,

P = Average Percentage

F = Amount/Frequency

N = Number of Respondents

Table 3.15

Percentage Score Interpretation Criteria

No	Score Percentage Interval	Criteria
1	75 < % score < 100	Very Positive
2	50 < % score < 75	Positive
3	25 < % score < 50	Negative
4	0 < % score < 25	Very Negative

(Juliani et al., 2022)