CHAPTER 3
RESEARCH METHODOLOGY

This chapter provided the methodology utilised to conduct the study. This chapter outlines seven parts of the research procedure, namely research method, research focus, setting and participant, data collection technique, data analysis technique, research steps, place and time of research. More details are described below.

A. Research Design

The research design of this study was Classroom Action Research (CAR). O'Connor et al. (2006) defined CAR as a scientific project conducted by teachers or lecturers through a particular method to discover a phenomenon in a classroom. This phenomenon refers to a 'problematic' situation or issue that the participants faced that could have been improved or solved by doing several actions or 'treatments' (Burns, 2009). CAR has been a more recognised tool for teachers to evaluate and reflect on their teaching strategies (Schmidt, 2002). In other words, CAR is a method of self-reflection done by teachers to figure out what works best in their classroom in order to improve the teaching and learning experience for both teachers and learners (Mettetal, 2002; D. Wulandari et al., 2019). Therefore, CAR is a suitable method for this study.
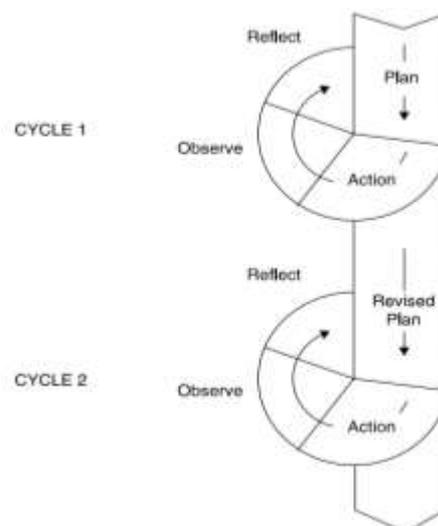

Figure 1. The Four Stages of CAR

The stages of classroom action research in this study were conducted based on Kemmis et al. (2013), are explained below. These stages were designed based on the theoretical foundation outlined in Chapter 2, particularly the principles of Constructivist Learning Theory and Game-Based Learning (GBL). Constructivism emphasises active engagement, collaboration, and meaning-making, which informed the use of interactive vocabulary tasks during planning and action. Likewise, GBL principles guided the integration of Baamboozle into each stage of the cycle to provide repetitive practice, immediate feedback, and learner-centred activities. Accordingly, each step of the CAR cycle, which includes planning, action, observation, and reflection, was structured to align with these theoretical concepts.

1. Planning

    In the planning stage, the researcher identified the problem that was discovered through a preliminary study (pre-observation and pre-test) and made a detailed plan:

    a. Created lesson plans that would solve the problem by using Baamboozle games as an interactive teaching strategy.

    b. Created research instruments such as a reflective journal and observation sheet to observe the overall teaching and learning activities,

2. Acting

    This stage involved implementing the planned activities in the classroom:

    a. Using the Baamboozle games during lessons to teach vocabulary in an engaging and participatory way.

    b. Providing clear instructions and fostering active involvement throughout the activities.

3. Observing

    During this stage, the researcher collected the data to evaluate the effectiveness of the treatment:

    a. Observed learners' participation through the learning activities with the help of observers and self-reflection.

b. Conducted a post-test to measure enhancements in vocabulary mastery.

4. Reflecting

In the final stage, the researcher analysed the observation sheet, self-reflection, and post-test results. The researcher compared learners' progress against the Criteria of Minimum Completion (KKM). The KKM was used as a parameter in this study because it functions as the official benchmark established by the school to determine learners' minimum expected proficiency in each subject, including English. In classroom action research, determining a clear and contextually relevant indicator of success is essential to evaluate whether the implemented actions lead to meaningful improvement. Since KKM represents the school's standard for learners' acceptable performance, it served as an appropriate and authentic criterion for assessing vocabulary mastery in this study. The use of KKM as a parameter is therefore aligned with the existing assessment system and ensures that the evaluation reflects the real expectations of the learning context. The researcher ought to look for what worked well during the treatments and the challenges or areas that require more attention. The researcher might also consider planning a second cycle if needed.

B. Research Setting and Participant

This research was conducted in a well-known private junior high school in Tasikmalaya, West Java. The data source was taken from a selected class of 20 students, with an equal number of female and male students. The class was chosen based on a recommendation from the teachers who already knew their students' abilities and skills. The problem found in this classroom is the difficulty of understanding the meaning, pronouncing, and, most crucially, the difficulty forming sentences, which includes integrating the vocabulary into their daily-life communications.

C. Data Collection

The data were collected by the following methods:

1. Test

This study assessed vocabulary mastery based on Cameron's (2001) framework, which views vocabulary knowledge as consisting of form, meaning, and use. The form component includes spelling and pronunciation, as learners must recognise the written and spoken forms of a word. The meaning component covers understanding word definitions and contextual meanings, while use refers to grammatical behaviour and appropriate application in sentences. Therefore, to collect the qualitative data, this study conducted a pre-test and a test after each cycle, which was measured by validity and reliability, in the form of multiple-choice questions and a pronunciation test. The goal of the tests is to determine if there is any difference among the participants after receiving some treatments (Bonate, 2000). The pre-test was conducted at the beginning of the action or before the treatment to assess the learners' prior vocabulary knowledge. Meanwhile, the test was conducted after each cycle to measure the increase in learners' vocabulary after the treatment.

2. Observation

The observation sheet, in the form of checklists and notes, was used to collect the qualitative data. Observation is the conscious perceiving and thorough examination of participants' behaviour in a realistic setting (Cowie, 2009). The use of observation in this study is directly aligned with the theoretical foundations outlined in Chapter 2. Since Constructivist Learning Theory emphasises learning through interaction, active engagement, and social collaboration, classroom observation allowed the researcher to capture how these principles appeared in real instructional practice, such as how students constructed meaning, interacted with peers, and responded to scaffolding during Baamboozle activities. Observation was also essential for documenting the Game-Based Learning elements discussed earlier, including motivation, participation, teamwork, and behavioural engagement, which cannot be fully measured through tests alone. In addition, because vocabulary learning involves not only cognitive knowledge but also classroom processes such as repeated exposure, contextualisation, and feedback (Cameron, 2001), observing

students' real-time behaviours provided valuable evidence of how the vocabulary-teaching principles were enacted through Baamboozle. To collect the data, an observer filled in the observation sheet for each meeting. The observation sheet contains questions and a comment section for observers to take notes or provide feedback on the integration of Baamboozle games in learning vocabulary.

3. Reflective Journal

To support the qualitative data, this study also utilised a reflective journal adapted from Cirocki and Widodo (2019). A reflective journal is a form of personal documentation that records the researcher's observations, experiences, feelings, challenges, and thoughts throughout the research process (Farrell, 2015). It enables the teacher-researcher to critically examine the learning environment, classroom interactions, and the effectiveness of the strategies used, which is the integration of Baamboozle games in vocabulary learning.

The reflective journal was completed after each meeting, including reflections on the learners' engagement, participation, challenges faced during the learning process, and any noticeable changes in vocabulary use and mastery. It also served as a tool for continuous self-evaluation and adjustment of the instructional approach for the next cycle. As Mills (2000) suggested, reflective journals can help teacher-researchers remain grounded and analytical throughout the action research process. This method complements the observation data by providing the researcher's insider perspective, ensuring a more comprehensive and authentic understanding of the impact of integrating Baamboozle games to teach vocabulary.

D. Data Analysis

This study utilised a mixed-method analysis, which means combining both qualitative and quantitative approaches to analyse the data (Dörnyei & Griffee, 2010). By combining the two methods, it can foster and strengthen the theory (Strauss & Corbin, 1998). In this study, the qualitative data is obtained from observations, meanwhile the quantitative data is obtained from pre-test and post-test.

To interpret the data, this study followed Miles' and Huberman's (1994)Miles & Huberman's (1994) interactive analysis model. Qualitative data from observation sheets and reflective journals were condensed by identifying recurring patterns related to students' engagement, participation, and responses to Baamboozle. These patterns were then organised into tables and thematic summaries, and interpreted using the theoretical lens outlined in Chapter 2 to evaluate whether the classroom behaviours aligned with expected principles such as active involvement, collaboration, and motivation. Meanwhile, quantitative data from tests were analysed using descriptive statistics, including mean scores and the percentage of students achieving the KKM, to determine improvements in vocabulary mastery across cycles. The results from both qualitative and quantitative analyses were then triangulated to ensure validity, allowing the researcher to draw comprehensive conclusions regarding how Baamboozle supported vocabulary teaching.

1. **Qualitative Data**

The observation sheet and reflective journal were analysed to determine the process of integrating Baamboozle games into the teaching and learning process. According to Miles and Huberman (1994), there are three steps to conduct a qualitative analysis:

a. Data reduction: This includes summarising the data, picking the most significant features, and detecting patterns and themes. This stage allows researchers to get a clearer image of the data, making it easier to collect more data and look for it later (Rukmana, 2022).

b. Data display: Includes organising and presenting the data logically and systematically. For example, data from a questionnaire can be presented in a table and described using descriptive text.

c. Conclusion drawing and verification: Stepping back to evaluate what the data represents and how it relates to the research questions. This stage also includes reviewing the data to confirm the findings.

2. Quantitative Data

The results of both the pre-test and post-test were analysed through descriptive statistics. To estimate the characteristics of a population, descriptive statistics, or simply statistics, are frequently applied to a sample (Nick, 2007).

Student's score:

$$\frac{B}{N}\times100$$

Notes:

B: correct number of items

N: number of multiple-choice questions

In addition, this study used SPSS to find the mean. Regardless, the use of Baamboozle games to enhance learners' vocabulary mastery can be declared as successful if the mean score reaches the school's *KKM,* which is 85.

E. Steps of the Research

The several steps of this research are as follows:

1. Identifying Problems

The researcher conducted a preliminary study to identify the problems at the research location through pre-observation in the classroom and pre-interview with the homeroom teacher. The result showed that the students struggled to memorise English vocabulary and seemed hesitant to use it in a daily conversation. To strengthen the pre-observation and pre-interview results, the researcher then conducted a pre-test, it was revealed that some students were still struggling with the meaning of some vocabulary, how to pronounce it, and how to use it in sentences. With this supporting evidence, the researcher arranged the next steps to complete the research.

2. Steps of Baamboozle Games

The use of Baamboozle in this study followed the Constructivist and Game-Based Learning frameworks, which emphasise interactive,

collaborative, and feedback-rich activities to support vocabulary development.
Here are the steps on how to create and play games in Baamboozle.
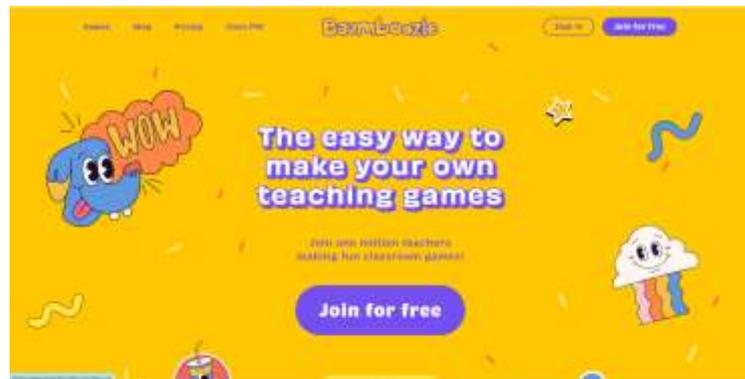
a. Sign up or log in at www.baamboozle.com

Figure 2. Steps of Baamboozle
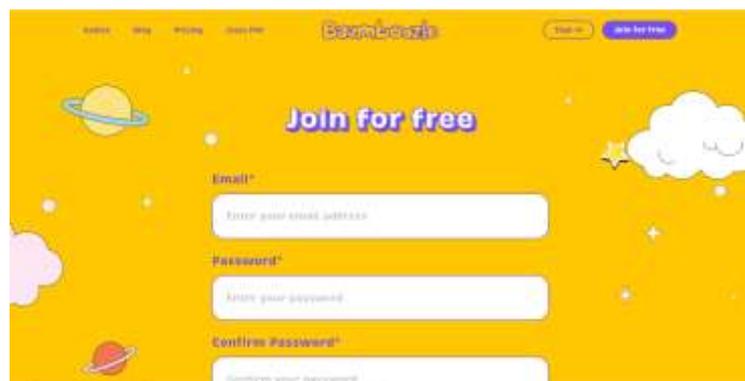
b. Click "Join for free" to create an account.

Figure 3. Steps of Baamboozle

c. Click "My Library" and then click "+ Games" to create games.

Figure 4. Steps of Baamboozle

d. On this page, users are expected to fill in the information about the game, such as the title, the description of the game, the language, the thumbnail, and tags related to the game or topic.

Figure 5. Steps of Baamboozle

e. In this step, users can customise their games to their liking. They can choose the type of questions ─multiple choice or short answer, adjust the number of questions, the answer key, and its points. Moreover, users also have two options for the image: a question with an image or an answer with an image. To save the questions, users have to click "Save" for each number. Users can make changes and adjustments at any time.

Figure 6. Steps of Baamboozle

f. In the "Settings" option, users can change the information of the game and set the privacy settings. Baamboozle offers three privacy options: public, unlisted, and private. "Public" means that the game is visible on users' profiles and can be played by anyone. "Unlisted" means that the game is hidden from users' profiles; however, the game can be played by anyone

with the link. "Private" means that the game is hidden from users' profiles, and no one can play the game except the users themselves.

Figure 7. Steps of Baamboozle

g. When users have finished creating the game, it will be visible on the users' profiles if the game is set as public. Each game will be given a code consisting of a unique series of numbers. This will help other users to find and play the game.

Figure 8. Steps of Baamboozle

h. Click "Play", and users will be given instructions and options on how they want to play the game. Users can choose the number of teams, the number of questions, and the game modes.
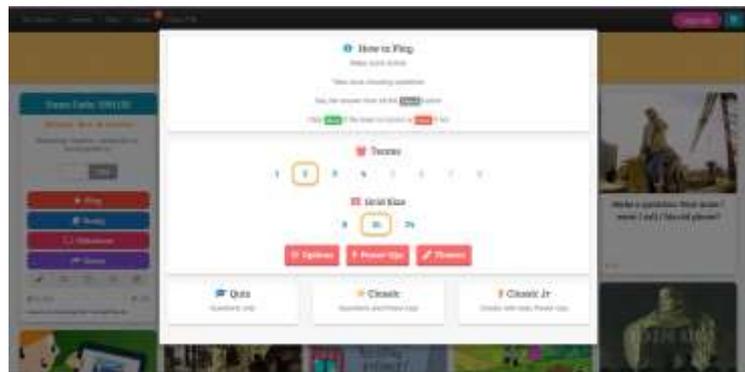
Figure 9. Steps of Baamboozle

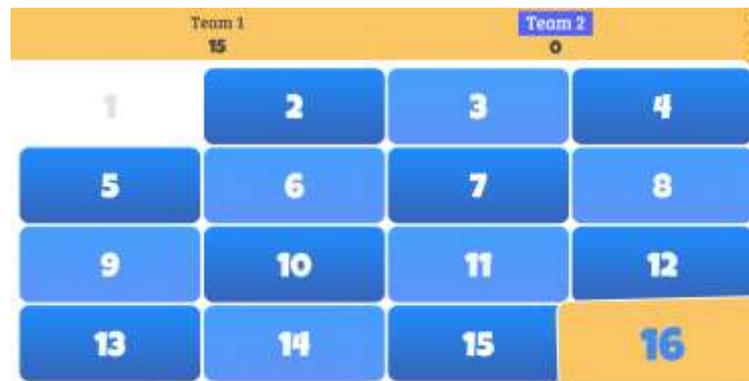i. The teams can take turns to choose any number that they want; each number contains questions.

Figure 10. Steps of Baamboozle

j. Each team will be given a question that needs to be answered, and then click "Check" to see the answer key. If the answer is correct, click "Okay!" and the team will receive points. If the answer is wrong, click "Oops!" and the team will not receive any points.
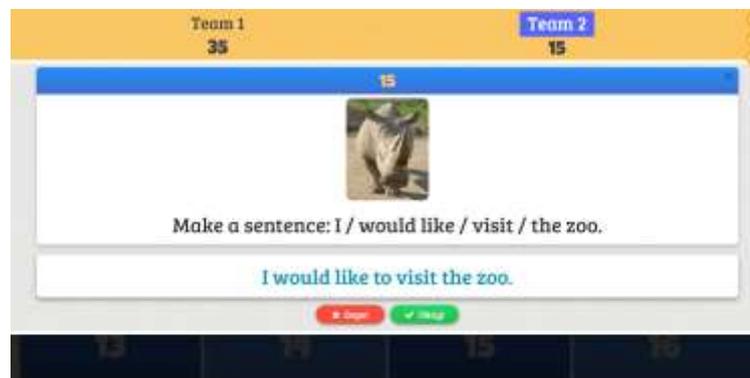

Figure 11. Steps of Baamboozle

k. If users set the game in "Classic Mode", some teams may get "Power-Ups" such as taking or giving some points to another team, going to first or last place, double points, another team gets 5-25 points, and many more.

Figure 12. Steps of Baamboozle

l. Once all of the questions have been answered, the team that got the most points is the winner.

Figure 13. Steps of Baamboozle

3. Cycle 1

a. Planning

In the planning phase, the researcher:

a) Created lesson plans by integrating the Baamboozle games in the teaching process to help students learn vocabulary.

b) Prepared research instruments such as an observation sheet, reflective journal, and a post-test that had been checked for their validity and reliability to measure students' improvement.

b. Acting

In the acting phase, the Baamboozle game was integrated to help the researcher teach vocabulary related to *preferences.*

1) Opened the class by greeting the students, checking their attendance, and ensuring their physical and mental readiness to study.

2) Asked a leading question related to the topic as a warm-up to stimulate discussion.

3) Displayed digital flashcards containing vocabulary related to expressing *references* while explaining the meaning, showing the correct pronunciation, and drilling the words together.

4) Divided the students into four groups to play Baamboozle; Each group took turns choosing a number, reading the question aloud, and answering it.

5) Concluded the lesson by summarising the material, leading a reflection session, and appreciating the students' participation.

c. Observing

In the observing phase, the researcher conducted a thorough observation of the teaching and learning process, as described below:

a) Collaborated with a peer observer who recorded classroom activities using an observation sheet and wrote a reflective journal throughout the session.

b) Monitored the students' engagement and participation during the vocabulary drilling, spelling, Baamboozle game, and peer interview activities.

c) Paid close attention to students' responses, enthusiasm, and collaborative learning behaviours, especially during the game-based activities.

d) Distributed a post-test at the end of the session to assess students' vocabulary mastery related to the topic of *Preferences*.

d. Reflecting

In the reflecting phase, the researcher analysed the observation result, reflective journal, and post-test to evaluate the effectiveness of the learning activities. The reflection process included the following steps:

a) Reviewed the observation sheet to identify which parts of the lesson were effective and which needed improvement.

b) Evaluated the post-test results to determine students' vocabulary retention and application.

c) Reflected on the overall classroom management, students' collaboration, time allocation, and how well the Baamboozle game supported learning objectives.

d) Decided whether to maintain or modify the strategies in the next cycle based on the level of student achievement and engagement observed.

4. Cycle 2

a. Planning

In the planning phase, the researcher made several improvements based on the reflection from Cycle 1:

1) Revised the lesson plan to fully integrate Baamboozle throughout all lesson stages to maximise vocabulary exposure and engagement.

2) Modified instructional strategies to embed Baamboozle tasks that introduce, reinforce, and interactively review vocabulary.

3) Prepared an updated second post-test to measure students' vocabulary development in Cycle 2.

4) Improved classroom management procedures and clearer game guidelines to optimise participation and minimise disruptions during game-based activities.

b. Acting

In this phase, the Baamboozle game was used not only during the practice activity but also to introduce vocabulary, assess prior knowledge,

reinforce learning, and review material at the end. The teaching steps were as follows:

1) Opened the class with greetings and attendance, followed by a warm-up game to activate prior knowledge related to the topic of *Describing People*.

2) Continued the lesson by using Baamboozle Slideshow to introduce and explain new vocabulary items. Each question included definitions, images, example sentences, and pronunciation models.

3) Used Baamboozle games to reinforce vocabulary understanding, where students worked in groups to choose questions and answer them collaboratively.

4) Integrated peer teaching by assigning students to explain their answers during Baamboozle turns to support comprehension and speaking practice.

5) Closed the lesson by summarising the vocabulary learned and checking understanding through a final interactive challenge.

6) Ended the session with class reflection, appreciation, and teacher feedback.

c. Observing

In this phase, the researcher conducted a comprehensive observation of how the full integration of Baamboozle affected student learning. The steps included:

1) Collaborated with a peer observer to document students' engagement, interaction, and behaviour using an observation sheet and a reflective journal.

2) Focused on how students responded to the use of Baamboozle during different stages of the lesson.

3) Observed the students' active vocabulary use, group collaboration, confidence in speaking, and ability to recall meanings and spellings.

4) Administered a post-test at the end of the lesson to assess vocabulary mastery after Cycle 2.

5) Collected student feedback and informal comments on their experience with the learning process.

    d. Reflecting

In the reflecting phase, the researcher analysed all data to assess the success of Cycle 2 and determine further steps. The reflection included:

1) Reviewed observation notes and the reflective journal to evaluate improvements in classroom dynamics and student participation.

2) Analysed post-test results to measure progress in vocabulary acquisition compared to Cycle 1.

3) Reflected on the effectiveness of integrating Baamboozle in each phase of the lesson and its impact on motivation, retention, and language use.

4) Noted that students demonstrated higher engagement, better recall, and improved peer interaction compared to Cycle 1.

5) Consider maintaining and refining this approach for future implementation or sharing best practices with fellow educators.

F. Research Schedule

The research time in question is the time span for the implementation of the research as outlined in the form of a table, as follows.

Table 1.
Research Schedule Table

Description	Oct/24	Nov/24	Dec/24	Jan/25	Feb/25	Nov/25	Dec/25
Research Proposal writing	■	■					
Research Proposal Examination			■				
Data Collection	■	■	■				
Data Analysis			■	■	■		
Report					■	■	
Thesis Result Seminar						■	
Thesis Examination							■