CHAPTER III
RESEARCH METHOD

3.1 Research Design

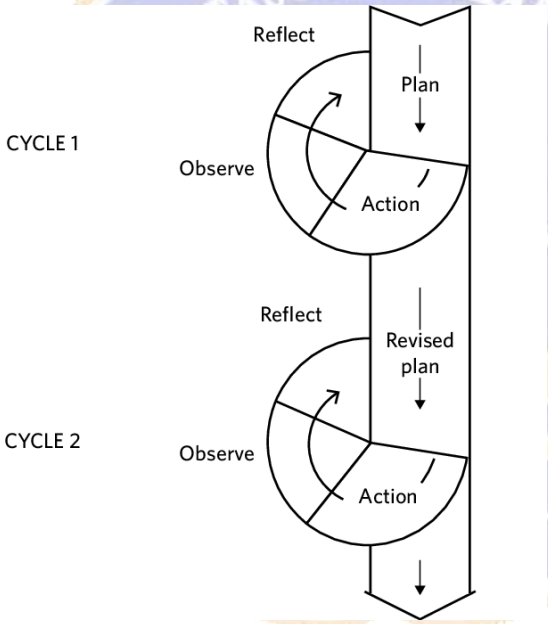
This research employed classroom action research method. Actions has been taken in the class. Depending on the level of success or the effect of the action, then steps has been taken to improve or adapt it according to the situation and circumstances. This is done with the hope of getting the best results in accordance with the main aim of this research which is to improve students' learning methods and skills, especially to improve students' English speaking abilities. This study focuses on the level of students' pronunciation skills when using Cake in class and Cake's supporting factors to improve students' pronunciation skills when used in classes. The level of students' pronunciation when using Cake in physical class is discussed using quantitative descriptive statistical methods. According to (Sugiyono, 2013), explained that descriptive research is research conducted to determine the value of an independent variable, either one variable or more (independent) without making comparisons, or connecting with other variables. Descriptive statistics can be used if want to find the strength of the relationship between variables through correlation analysis, make predictions with regression analysis, and make comparisons by comparing the average sample data. Cake's supporting factors to improve students' pronunciation skills has been discussed using qualitative methods with Triple E Framework as assessment tool. According to, (Sugiyono, 2013), qualitative research discusses more on efforts to reveal phenomena in social situations broadly and deeply, as well as finding hypotheses

and theories. Researchers also used interviews with students to answer how they would expand their use of the Cake application outside of school as stated in the Triple E Framework as an assessment tool.

3.2 Research Procedure

This classroom action research passed at least two cycles with several phases in each cycle. These phases include: planning, action, observation, and reflection.

Figure 3. 1 Cyclical CAR model based on Kemmis and McTaggart (1988).



3.2.1 Planning

After made observations during the observation phase, the researcher identified the problems found and made it a challenge to develop appropriate lesson plans using the Cake artificial intelligence application to involve overcoming these challenges, especially in the area of pronunciation skills.

3.2.2 Action

This phase is the phase where planning is carried out as planned. Researchers would take action on each student's behaviour and response to the learning process using a previously created learning plan.

3.2.3 Observe

In this observation process, the researcher has been invite several colleagues to help record and observe the learning process in class to collect information and identify real problems in the field. Then interviewed the students in class regarding English learning in class.

3.2.4 Reflection

After collected data during implementation, the researcher conducted a reflection process to evaluate the effectiveness of the lesson plan using the Cake artificial intelligence application. The collected data was analysed to assess the acquisition of students' pronounciation skills. The table of pronouciation assessment values for each cycle has been compared to arrive at a conclusion. Each phenomenon that exists at this value is explained as a central tendency measurement (mean, median, mode) and its deviation.

Reflection would not prove anything different, but it gave an idea of the answer. If the implementation does not produce the expected results, the researcher starts a new cycle from the design section. The most effective teaching design has been selected to answering the research questions. Teaching cycle 1 used one particular method, teaching cycle 2 used another method. Revised learning plan and

presenting new ideas and innovations that can improve student learning outcomes from Cake artificial intelligence app.

3.3 Research Setting

This research was conducted at SMK Negeri 1 Sawan which is located in Sawan, Buleleng, Bali. The selection of this school as a research location was based on considerations of accessibility and mutual support from school leaders. SMK Negeri 1 Sawan was chosen as the research location because it implements an independent curriculum in accordance with current conditions so it is suitable for implementing effective teaching methods using the Cake artificial intelligence application. The research is planned for the second semester of the 2023/2024 academic year. The research will go through several meetings divided into several cycles until satisfactory results are found. The end of the research is at the "n" meeting, namely the meeting when satisfactory results have been obtained.

Table 3. 1 Research Schedule

Meeting 1	Cycle 1
Meeting 2	Cycle 1
Meeting 3	Cycle 2
Meeting 4	Cycle 2
Meeting n	Cycle n

3.4 Researh Subject and Object

The subject of this study is the students of Hospitality 1 class X SMK Negeri 1 Sawan and the object of this study is the results of student learning in the field of pronunciation when use Cake artificial intelligence app in learning. The

selection of SMK Negeri 1 Sawan students is because according to the latest curriculum from the Indonesian Ministry of Education, one of the learning outcomes in the independent curriculum is skills (Hermawan et al., 2022). Based on that, one of the skills in English is speaking that currently on concern. So the researcher chose this school because this school has used the independent curriculum so that the results obtained can be in accordance with the learning objectives in the independent curriculum. The sample of this study was selected by technic purposive sampling, which is a sampling technique for data sources with certain considerations (Abdussamad, 2021). In this case the researcher chooses classes with a level of English proficiency that was not in accordance with the opinion of the teaching teacher that is in Hospitality class X. The selection of classes with poor English skills is expected to get a significant change or increase in learning outcomes and also makes it easier for researchers to explore the social object/situation under study.

3.5 Data Collection Method

Data collection is carried out for several meetings until significant results are obtained. The data collection technique in this study was through observation and speaking test. Observations is used to find out what learning evaluations are using the Cake application to improve students' speaking skills. The speaking test was carried out to find out whether the Cake application could be used to improve students' speaking skills.

3.5.1 Speaking Test

The test is carried out at the end of learning. In this study, the test method was based on a speaking test. This test is designed to assess students' abilities after learning activities. Test data is obtained by conducting evaluations at the final of each cycle. The test is individual, meaning students have to work on the questions themselves. At the end of each cycle, an analysis was carried out to determine the weaknesses experienced during that cycle. The assessment elements in the speaking test is assessed consonants, vowel, intonation, word stress, and sentence stress (Kelly, 2000). The form of assessment used is a Likert scale, namely 5 value weights for each assessment element. For information of the blueprint of assessment see the appendices 1. The target of student success is if the student is able to meet the specified minimum score standard (KKM), namely 70. The results of this test are an important indicator regarding the impact and effectiveness of the educational methods used in this research.

3.5.2 Observation through Triple-E Framework

Researchers studied teaching and learning activities in class with a focus on teaching through Cake applications. These observations helped identify problems at the identification and planning stages and clarified student and teacher behaviour during project implementation. These results are recorded as field notes for further analysis and refinement. The Triple E Framework has been used as a guide in making observations, the observation table based on the Triple E Framework see appendix 8.

3.5.3 Interview

Interviews is conducted with students to answer how students use the Cake application outside the school environment which is also one of the main parts of the Triple-E Framework, that is expanding learning objectives. Interview is something that is carried out with the intention of obtaining information by conducting a question and answer session with the source (Abdussamad, 2021). The selection of sources or students selected to be interviewed was carried out using a purposive sampling technique. Purposive sampling is a technique for sampling sources with certain considerations (Abdussamad, 2021). Researchers selected several students who are considered active in class in the hope that they will be open to the questions asked. This aims to make it easier for researchers to explore the situation of using Cake outside of school.

3.6 Variable and Instruments

The instruments used in this research are intended to support or obtain data from a variable. These instruments include the speaking test as an instrument to support pronunciation skill improvement, and finally the observation through The Triple E Framework to support Lesson evaluation.

Table 3. 2 Variable and Instrument

Variable	**Instrumen**
Pronunciation skill improvement	Speaking (Pronunciation) Test
Tool evaluation	Observation trough The Triple E Framework

3.6.1 Speaking (Pronunciation) Test

In this research, students is tested their speaking skills and assessed by a team of assessors (research assistants) using an assessment questionnaire in the form of a Likert scale, namely 5 weighted scores for each assessment element. The assessment elements in the pronunciation test assessed vowel, sentence emphasis, syllables, consonants, and fluency adapted from Kelly (2000). For the pronunciation assessment rubric, see the appendix 1.

3.6.2 Triple E framework

Triple E framework is used as a reference for conducting learning evaluations. From the results of the evaluation, the teacher makes improvements to the planning for the second cycle and so on until the desired results have been achieved. The table observation through Triple E Framework see apendix 8.

3.7 Triangulation

Triangulation is a technique in research that uses various data sets, methods, theories and researchers to answer the research questions being conducted. The triangulation strategy in research aims to increase the validity and credibility of the data obtained from the research.

In this research, the technique triangulation is used. Technique triangulation means that researchers use different data collection techniques to obtain data from the same source. Researchers used speaking tests, observations via the Triple-E Framework, student daily journals and documentation for the same data sources simultaneously. The purpose of this triangulation in this research is to avoid bias and subjectivity from observers considering that the subjects of this research are students.

3.8 Research Validity

After the pronunciation test for students was developed, the experts then judged the assessment questionnaire. The validity of the assessment questionnaire of speaking test was measured using the Gregory formula.

Table 3. 3 Tabulation of Content Validity

		Judge II	
		Irrelevant	Relevant
Judge II	Irrelevant	A	B
	Relevant	C	D

Formula 3. 1 Content Validity of Gregory Formula

$$\frac{D}{A + B + C + D}$$

Where:

A = Irrelevant items according to both judges

B = First judges relevant, second judges irrelevant

C = First judges irrelevant, second judges relevant

D = Relevant items according to both judges

Table 3. 4 Content validity criteria

Scale	**Level**
0.8- 1	very high validity
0.6-0.79	high validity
0.40 - 0.59	average validity
0.20 -0.39	low validity

0.0-0.19	very low validity

The results of expert judgment 1 can be seen in appendix 9, and the results of expert judgment 2 in appendix 10. The following is an analysis of the expert judgment results:

		Judge II	
		Irrelevant	Relevant
Judge II	Irrelevant	A= 0 Items	B= 0 Items
	Relevant	C= 0 Items	D= 5 Items

The interpretation is that both expert judges agree that all items in the pronunciation assessment rubric are relevant, the calculation of the validation result from both judge: $\frac{5}{0+0+0+5}$

$: 1$

By getting point one, it can be concluded that the pronunciation assessment rubric has very high validity.

3.9 Method and Analysis Technique

3.9.1 Assessing Evaluation Tests

Quantitative data is analysed using statistics. The data obtained from the speaking test using a Likert scale was first tabulated into a table which was then analysed using exel. In this research, the midpoint or mean is used as a tool to assess student performance when the Cake application is intervened. By analysing

speaking test results, researchers can better understand and describe the level of progress of students' speaking skills. Every phenomenon obtained from statistical figures such as central tendency, dispersion, mode, median, mean is described according to conditions in the field. The description of the results of this integrated data analysis allows researchers to understand the impact of implementing baking learning on students' speaking abilities and development in depth.

3.9.2 Observation Data Analysis

For analysis of observation data using theThe Triple E Framework , each item uses three scales, namely 0, 1, and 2. There are 18 observation items which are divided into three aspects, namely Engagement in the learning, Enhancement of the learning goals, Extending the learning goals contained 3 items for each aspect. At the end the value of each item is added up, the description of the value range see appendix 8.