CHAPTER III RESEARCH METHODS

A. Type of Research

The research approach employed in this study was research and development (R&D), which includes the processes of researching, developing, and testing to evaluate the effectiveness of a product or service. R&D is an initial and exploratory phase of research. According to (Zakariah et al.2020), R&D is typically viewed as a process aimed at creating new products or enhancing existing ones. These products may include hardware, such as books, modules, or learning tools for classroom or laboratory use, or software, such as videos or applications.

The term "Research and Development methods" is derived from the words "research" and "development." "Research" refers to a systematic activity or process that follows internationally accepted research standards, while "development" focuses on improving, enhancing, or increasing the quantity or quality of an object. Interpreting the Research and Development (R&D) method solely by its name could lead to a misunderstanding of its true significance. It is often believed that R&D involves two separate processes: research and development. However, R&D is considered a cohesive concept, and its structure and meaning are closely tied to other research methods due to its specific purpose.

According to Sugiyono (2017) Research and Development (R&D) is a research method aimed at producing specific products and testing their effectiveness. Similarly,(Pesisir et al., 2020) describe R&D as a research approach used to create new products or enhance existing ones. These products can be either software or hardware, such as books, modules, packages, tutorials, learning materials, and more. Unlike traditional research, which focuses on suggesting improvements, R&D leads to the creation of practical, ready-to-use products. The outcome of educational R&D is intended to improve educational productivity by producing a large number of qualified graduates who meet the needs of society.

This study is a research and development that aims to produce a product in the form of a prototype of a local culture-based learning video and test its effectiveness in improving English speaking skills in grade VII students. The development model used in this research is the ADDIE development model.(Wedyawati et al., 2024)

Reasons for Method Selection:

- 1. Research and Development (R&D): This method is used to produce a specific product and test the effectiveness of the product. In the context of your research, the product in question is a prototype of a local culture-based learning video.(Edo et al., 2023)
- 2. ADDIE Model: This model consists of five stages:
 - Analysis: Identifying the needs and problems faced in learning English speaking skills.
 - Design: Designing the content and structure of the learning video that integrates local cultural elements.
 - Development: Creating and developing video prototypes based on the design.
 - Implementation: Testing the video prototype with seventh grade students at SMPN 15 Bengkulu City.
 - Evaluation: Assessing the effectiveness of the video prototype and making revisions based on the feedback received.

By using the R&D method and ADDIE model, the researcher can develop an effective learning video prototype that suits the students' needs and ensure the integration of local culture in the learning materials to improve their English speaking skills.



Analysis

The first stage in the ADDIE model is analysis, where the main objective is to identify learning needs and structure the context accordingly. This step includes the following activities:

- 1) Identification of the problem and need: Assessing existing problems in the learning process and identifying what needs to be improved.
- 2) Analysis of learning objectives: Setting clear and measurable learning objectives based on the analyzed needs.
- 3) Learner characteristics: Understanding learner profiles such as their abilities, backgrounds, learning styles and specific needs.
- 4) Context and resources: Identifying existing resources (e.g., time, funds, tools) and possible constraints.

b. Design

This stage includes planning and making learning videos. Learning videos are made in the form of animation videos. The next stage is to design learning videos based on the data collected at the analysis stage. Development of learning materials based on thematic videos. This stage includes planning and making learning videos. Learning videos are made in the form of cartoon animation videos. The next stage is to design learning videos based on the data collected at the analysis stage. The creation of learning media based on thematic videos uses the help of application programs, namely CapCut and Pinterest.

1) CapCut

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CapCut is a video editing application designed to make it easier for users to create engaging and professional video content directly from mobile devices.CapCut can be used to make highquality video footage without requiring advanced technological expertise. Researchers chose this program because it is more practical and does not require any specific abilities, as well as the fact that it can be utilized on mobile phones.



Picture 3. 2 CapCut video editing application

In addition to being practical, the CapCut application has complete features that are sufficient for the video media creation process. Here are the features in the CapCut application that are used in making videos:

- Video Cutting and Merging
 - Users can cut and merge video clips easily.
- Visual Effects and Filters

Provides various effects and filters to enhance the appearance of videos.

• Text and Stickers

Allows adding customizable text and stickers.

- Sound Settings or Voice Changer Users can add music, voices, and sound effects from the available library.
- Transition

Various transitions to smooth the transition between clips.

- Chroma Key
 - Feature to remove video background.
- Template

Offers ready-to-use templates to simplify the editing process.

With all these features, CapCut becomes an effective tool to help researchers convey their research results in an engaging and informative way.

2) Pinterest

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Pinterest is a social media platform that focuses on sharing and discovering ideas through images. Researchers can easily search and save images that are inspiring and useful for research. With this feature, Pinterest becomes an effective tool for finding and collecting visual sources for research such as video background images and others.

Pinterest Today	Watch Explore	background airport kartun		X Log in Sign u	ap 1
Filters				Cartoon World Environment Day	
All Pins	0		Premium Vector Sa'i Meaning ritual of walking between the two	West of the second seco	
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Boards	0	Encloser in 2020	AA	Free Cartoon, Airport, King Background Images, Cartoon Kin	
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Picture 3. 3 Video background search process

with pinterest application

To create animated video media, there are stages in the development process, including:

1. Develop test standards

The preparation of test standards occurs between the definition and design stages and is the first step in assessing students' initial abilities. These benchmark exam standards are developed based on the learning objectives and student analysis, followed by the creation of a learning outcome test framework. The exams are designed to match the students' cognitive level. The test results are scored using an evaluation guide, which includes the answer key and criteria for scoring each question. This guide serves as an assessment tool to evaluate the students' performance after completing the test items, functioning as a tool for assessing their activities.

2. Media selection

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Overall, the purpose of media selection is to choose instructional materials that match the characteristics of the content. The media selection process is guided by the findings from concept analysis, task analysis, the traits of the student audience, and strategies for distributing the media across different platforms. The primary goal of media selection is to maximize the effectiveness of teaching resources in supporting the learning process.

3. Format selection

The purpose of selecting formats in the development of learning tools is to define the design of the learning media and to choose suitable strategies, approaches, methods, and resources that align with the teaching materials.

4. Initial design

The initial design refers to the comprehensive plan for the learning device that must be completed before conducting product trials. This design includes a range of organized learning activities and varied practice exercises to accommodate different learning abilities through teaching methods.

c. Development

Development stage has two steps: (1)Expert appraisal followed by revision, (2)Developmental testing. The purpose of this improvement degree is to provide the very last shape of the gaining knowledge of tool after going via a revision degree primarily based totally on enter from professionals or practitioners and information from product trials.

1) Expert appraisal

Expert appraisal is a technique to obtain material improvement suggestions from experts. By conducting an assessment by experts and obtaining suggestions for improving the developed learning devices, the next step is to revise the product according to expert suggestions. Expert assessment is expected to make learning devices more precise, effective, tested, and have high techniques.

2) Developmental testing

Developmental testing is conducted to gather direct feedback, including responses, reactions, and comments from students and observers regarding the prepared learning device. Testing and revisions are done iteratively to refine the device until it becomes effective and consistent.

d. Disseminate

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The dissemination phase marks the conclusion of the 4D model learning device development process. Although often overlooked, this final stage of packaging, distribution, and adoption is considered crucial. The goal of the dissemination phase is to introduce the developed product to ensure its acceptance by individuals, organizations, or systems. This phase includes three main steps: validation testing, packaging, and distribution/adoption.

During validation testing, the product, which was modified in the development phase, is tested with the actual target audience. The effectiveness of the product is then measured to assess whether the objectives have been achieved.

In the packaging, dissemination, and adoption phase, the product is finalized by preparing an implementation manual, which is distributed to individual users, groups, or systems. This enables them to understand and apply the product for its intended use. However, the development of the new video learning media product is still in its initial stages.

e. Implementation In the implementation been developed activities in this 1) Dissemination learners, eith

In the implementation stage, the learning materials that have been developed are applied in a real learning environment. The main activities in this stage include:

- Dissemination of learning materials: Delivering materials to learners, either in the form of face-to-face classes, e-learning, or blended learning.
- Training for teachers: If necessary, provide training to teachers to utilize the new learning materials and media.
- Data collection: Collect information on learner acceptance of the materials and the effectiveness of their use.

f. Evalution

The evaluation stage is conducted to assess the effectiveness and quality of the learning that has been implemented, as well as determine areas for further improvement. Evaluation consists of two types:

- Formative evaluation: Conducted during the learning process to find out how effective the learning is. It usually involves direct feedback from learners.
- Summative evaluation: Conducted after the learning has finished, it aims to assess whether the learning objectives have been achieved.

B. Trial Design

The resulting product will then be validated by expert validators consisting of 3 people (2 lecturers of UINFAS Bengkulu and 1 teacher of SMP Negeri 15 Bengkulu City) to determine the level of validity of the product. After being validated by expert validators, the product was revised and tested on students in class 7D SMP Negeri 15 Bengkulu City to find out the students' response to the learning media developed.

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1. Trial Subject

The test subjects in this study were lecturers. The criteria for the test subjects are described as follows:

a. Lecturer

The lecturers who became the test subjects in this study consisted of 2 lecturers of UINFAS Bengkulu. The criteria for these lecturers are 2 English lecturers who are also the supervisors in the preparation of this thesis.

b. Teacher

The teacher who became the subject of this research consisted of 1 English teacher at SMP Negeri 15 Bengkulu City named Mr. Riky Oktavianus Depari. The English teacher assessed the learning materials developed from the aspects of material, presentation, appearance and integration developed in the teaching materials.

c. Students

The test subjects in this study were class 7D students of SMP Negeri 15 Bengkulu City with a total of 25 students.

2. Data Types

The types of data obtained consist of two types, namely qualitative data and quantitative data. Qualitative data is data other than numbers obtained from notes, comments, criticisms or suggestions given by the validator which are used to improve or revise teaching materials both in writing and not in writing. Quantitative data is data in the form of numbers obtained from assessment questionnaires given to trial subjects. Quantitative data results are used to determine the feasibility of videobased teaching materials.

2) Quantitative Data (From Pretest and Posttest)

- Pretest and Posttest Results : Measuring the improvement of students' speaking skills after using learning videos.
 - Speaking Skill Assessment Score : Using English speaking assessment rubrics (e.g. pronunciation, fluency, grammar, vocabulary, and comprehension).
- Statistical Analysis : Can use statistical tests (e.g. t-test) to see significant differences between pretest and posttest.
- 3) Qualitative Data

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- Observation : Observing how students interact with learning videos.
- Interview or Open Questionnaire : Exploring students' perceptions of the effectiveness of videos in improving speaking skills.

C. Data Collection Instruments

The instruments used for data collection in development research are as follows:

a. Observation

Observing the learning process before and after the implementation of the learning video to see the changes in students' speaking skills.

b. Questionnaire

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The data collection instrument is in the form of an expert validation questionnaire. The questionnaire aims to collect data on the accuracy of the material, appearance, and integration. The questionnaire that will be used in this study is in the form of a *checklist* with a score assessment on each aspect using a *Likert* scale of 1-4. This questionnaire will be analyzed to determine the feasibility as well as a consideration for revising the learning media so that it is suitable for use. The criteria for each assessment scale, namely the validation instrument and student responses, are as follows:

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Assessment criteria

Criteria	Score	1 C
Very good	4	X
Good	3	15
Poor	2	2
Very poor		2

The data collection instruments in this study are explained as follows:

1) Expert Validation Instrument

The validation instrument is given to the validator along with the learning media product to be assessed against the developed media. The validator provides a checklist in each column available on the validation instrument sheet. Criticism and suggestions for improving the learning media are submitted by the validator in the criticism and suggestions section. Furthermore, the researcher processes the data using the expert validation formula. 2) Junior High School Teacher Validation Instrument

The validation instrument was given to English teachers of SMP Negeri 15 Kota Bengkulu. This type of questionnaire was used to revise the learning media before the trial use of learning media by students.

3) Student Response Instrument

The student response instrument used is a student response questionnaire. The questionnaire is used to determine student responses and their opinions on video learning media.

c. Interview

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An interview is a process where the interviewer engages in direct conversation with the information source or interviewee. In this study, the researcher conducted semi-structured interviews.

The point of semi-structured interviews is to investigate issues transparently, permitting interviewees to share their suppositions and concepts. Amid the meet handle, analysts must tune in mindfully and take notes on what the witnesses say (Sugiyono, 2017). The interviews are used by researchers to gather qualitative data regarding English learning in 7th grade from both teachers and students who are relevant to the study (Jonathan Saswono, 2006).

D. Data Analysis Techniques

Data analysis techniques consist of data analysis from validation results and data analysis of the effectiveness of video learning media. Data analysis techniques used to analyze data include notes on suggestions, criticisms and responses from expert validation questionnaires (Musyarofah dan Anindya Fajarini,2018).

a. Validation Result Data Analysis

Analysis of the validity of video learning media, material validation questionnaire data, and English teachers and student

response questionnaires in the form of score data, then analyzed using the formula.

V-ah = $\underline{Tse} \times 100\%$

Tsh

Information:

V : Validation (combined)

V-ah : Expert validation

V-au : Audience validation.

Tse : Total empirical score (expert validation result value)

Tsh : Total maximum score (maximum expected value)

Eligibility Test Criteria

0	Value Achievement Criteria	Level of effectiveness/validity
é	75,00% - 100,00%	Very valid, very effective, can be
	2 VUI	used without correction.
\geq	51,00% - 75,00%	Quite valid, quite effective, can be
Z		used but needs improvement.
5		Less valid, less effective, less
Ŧ	26,00% - 50,00%	complete, needs major
-	- Benau	improvements, recommended not
		to be used.
	00,00% - 25,00%	Ineffective, can't be used

If the results obtained are valid enough then a minor revision of the learning media being developed is necessary, whereas if the results obtained are valid then the product can be used without revision.

b. Analysis of Trial Effectiveness Data

The results of the average pretest and posttest scores of students during the first and second trials using the developed English video will be used to measure the level of learning effectiveness using the relative effectiveness formula. The formula used to calculate relative effectiveness is:

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$$ER = \frac{MX2 - MX1}{(\frac{MX2 + MX1}{2})} \times 100\%$$

Information :

ER: Relative Effectiveness

MX 1 : Mean / average value of pretest

MX 2 : Mean / average value of posttest

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	Trial Effectiveness Criteria		
21	Persentase	Kriteria	
21	75,00% - 100,00%	Very Effective	
51	51,00% - 75,00%	Effective	
	26,00% - 50,00%	Less Effective	
	00,00% - 25,00%	Ineffective	
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