

## **CHAPTER III**

### **RESEARCH METHOD**

#### **A. Research Design**

This study follows the Research and Development (R&D) model called ADDIE adapted from Allen (2017), that stands for Analysis, Design, Development, Implementation, and Evaluation. These five phases are conducted systematically to ensure the effectiveness of the process. According to Sugiyono (2011), the research and development (R & D) method is utilized to create specific products and to evaluate how effective these products are. This approach involves not only the creation of new products but also the assessment of their performance to ensure they meet desired standards. In this research, R&D techniques are employed to evaluate the efficiency of a procedure and the outcomes of a particular product. When designing a specific product, the researcher must first complete a needs analysis. Subsequently, to assess the product's effectiveness, validators are required to respond to a questionnaire. Once the product is prepared, it can be implemented with the students.

#### **B. Models of Research and Development**

This study follows a research and development (R&D) approach, which is a systematic method used to create or improve various products or processes. Research and development involve a series of structured steps aimed at developing new solutions or enhancing existing ones. In education, this method

is commonly used to create different learning resources like textbooks, modules, multimedia materials, and educational software. By applying research and development techniques, educators and instructional designers can refine teaching materials to better meet students' needs and improve teaching practices. Therefore, research and development play a crucial role in driving innovation and improvement

In education. As stated by Sugiyono (2011), research and development is a methodology employed to generate particular products and assess their effectiveness. In educational realm, Research and development (R&D) is a methodical process used to create and refine new products and procedures based on research findings that could help the educational process. These new developments are carefully tested and evaluated to make sure they meet specific standards for how well they work and their quality.

There are several models of research and development, which are.

#### 1. ADDIE

The ADDIE model, by Raiser and Mollenda, has five steps: analysis, design, development, implementation, and evaluation. First, analysis assesses needs, requirements, tasks, and participants' capabilities. Design plans learning goals, formats, activities, and exercises. Development involves creating prototypes, course materials, and reviewing them. Implementation sets up training, tools, and observes. Lastly, evaluation checks awareness, knowledge, behavior, and results.

#### 2. 4D Models

According to Thiagarajan (1974), there are four steps in development. The first step is Define, also known as the needs analysis stage. The second step is Design, which involves creating the conceptual framework and learning tools. Then comes the Develop stage, which includes testing and assessing the feasibility of the media. Finally, there's the Disseminate stage, where the implementation occurs with the actual research subjects.

### 3. Borg and Gall

As per Borg and Gall (1983), this development model adopts a waterfall methodology in its developmental phases. The Borg and Gall model comprises several extensive stages, encompassing 10 implementation steps: (1) gathering research and information, (2) planning, (3) creating a preliminary product form, (4) conducting initial field tests, (5) revising the primary product, (6) performing main field tests, (7) revising the operational product, (8) conducting operational field tests, (9) finalizing product revisions, and (10) disseminating and implementing the product.

### 4. Dick and Carey

The Dick and Carey instructional design model consists of nine steps that aim to create effective learning programs. These steps involve identifying instructional goals aligned with organizational objectives, analyzing instruction, understanding learner and contextual factors, setting clear performance objectives, creating assessment tools, devising

instructional strategies, selecting suitable materials, and conducting formative evaluation to evaluate instruction effectiveness.

Based on the descriptions of kinds of R&D model, researcher choose The ADDIE model, because it is widely preferred for creating English teaching grammar materials and provides a clear, flexible, and effective process. Referred to the steps of ADDIE model, there are five majors steps of development. They are analysis, design, development, implementation and evaluation.

### **C. Stages of Developing the Product**

Defined by Sanjaya (2014) The stages of research and development typically involve cycles aimed at producing a specific product that aligns with the needs analysis. This process begins with designing the product, followed by initial trials to identify weaknesses, making improvements, conducting further trials, and making overall adjustments until the ideal product is achieved. Based on that statement, research and development models are typically involve similar stages from need analysis stage to the final product. Furthermore, This research employed the ADDIE model, which stands for Analysis, Design, Development, Implementation, and Evaluation, to systematically guide the development and assessment of the instructional materials.

#### **1. Analysis**

During the analysis phase, the researcher collects information regarding the challenges faced by the teacher in teaching the simple present

tense and identifies the necessary support needed for the learning process. This includes comprehending the underlying difficulties encountered by the teacher when teaching this aspect of grammar. The objective is to validate the requirement for developing educational materials and to gather comprehensive insights into the teacher's specific needs. Interviews serve as the primary method for acquiring the data required for analysis from the teacher, thus forming the essential rationale for the development of educational media.

## 2. Design

Following the Analysis Stage, the subsequent step is Design. During this phase, the focus shifts to implementing the instruction. Essentially, the instructional designer in this stage considers how to design instruction in a manner that enhances people's learning and engagement with the material being created and supplied. Moreover, in the design phase, the instructional designer develops and concentrates on creating assessments for their subject, chooses a format for the course, and formulates their instructional strategy. In the second phase, the researcher develops a design for the product based on the findings of the analysis conducted in the previous stage. In this research, the product to be created is a learning game media for simple present tense grammar, designed specifically for Web-based platform.

## 3. Development

As stated by Branch (2009) The aim of this development phase is to create and confirm the product. This step builds upon the first two phases, analysis and design. It means that if those phases are done correctly, the development process becomes easier. In this third phase, the instructional designer merges technology with the educational setup and process. This entails integrating technological tools with teaching methods to improve the learning process. After completing the product design, the researcher moves on to developing it by crafting various media elements like storyboards, materials, questions, backgrounds, images, fonts, animations, and buttons for the application. This step translates the conceptual design into concrete products ready to be put into action.

During this stage, the researcher constructs the product according to the previously conducted design. Additionally, the development materials are reviewed and verified by a panel of experts, including a subject matter expert, an IT specialist, and teachers.

#### 4. Implementation

The next step is implementation, where the approved assessment product, checked by a team of experts including subject matter specialists, media experts, and teachers, is put into action. During this stage, the designed product is tested. This means that the revised product is used by the intended users.

#### 5. Evaluation

During this phase, the researcher assesses and improves the product following its implementation, considering feedback received. Evaluation is a crucial aspect of the study as it refines the product development process. The aim of evaluation is to scrutinize each step to ensure the product is of high quality. This stage is carried out to gauge the effectiveness of instructional products and processes.

#### **D. Research Setting**

The research was conducted at MTSs Nur Ihya'iddin located on Jl. Raya Batakan Km.12 in Sungai Riam Village, Pelaihari District, Tanah Laut Regency.

#### **E. Research Participant**

The research involves an English teacher from MTSs Nur Ihya'iddin. The researcher chose this teacher to gain a deeper understanding of how the materials address the topic of the simple present tense and to identify what support the teacher needs to improve her students' grasp of simple present tense grammar.

#### **F. Data Collection Techniques**

In this research, two methods were used to collect data for developing the SPT games: interviews and questionnaires. These techniques helped gather information effectively for the study.

##### **1. Interview**

Fadli (2021) explains that interview is a tool used to gather information and gain a deeper understanding of social and cultural

situations by listening to the interviewee's words and expressions. In this research, interview was used to gather data and the focus was on the issues students faced in learning the simple present tense in the 8th grade at MTs Nur Ihya'iddin. The results from the interviews helped identify the needs for developing suitable learning materials.

## 2. Questionnaire

According to Sugiyono (2015), questionnaires are a way to collect information using written questions or statements that respondents fill out. In this research, questionnaires were used to evaluate whether the developed product, assessed by media, materials, and education experts, was suitable. They were also used to measure changes in students' motivation to learn before and after using the developed product.

## **G. Data Analysis Technique**

The analysis focused on thoroughly evaluating the information collected from both interviews and questionnaires. The primary goal was to identify specific issues that could serve as the foundation for developing effective learning media. This process included assessing feedback on the materials that had been developed to ensure they met the needs and expectations of both teachers and students. Additionally, the analysis aimed to gain a comprehensive understanding of the requirements and preferences of the users to inform future improvements. By doing so, the research sought to create more effective and engaging educational resources tailored to address the challenges identified in the initial data collection phase.