

CHAPTER II

LITERATURE REVIEW

The reviews of relevant literature used in this specific research are covered in this second chapter. This chapter presents supported prior research and attempts to offer some information regarding the research's key terms. It includes an overview of development research, interactive application, English component, grammar, and vocabulary.

A. Development Research

A research methodology connected to design and development work is called development research. Research on development is focused on products. Development research is a subset of research that tries to advance current theories of education, generate new knowledge, or create educational products. Products from development research include learning systems, learning media to support learning, teacher training materials, and student learning materials, among others.

Development research, according to Gay, cited by Wasis (2004: 4), is an endeavor to create an efficient product—that is, learning strategies, learning media, and learning materials—for use in classrooms, not to test theories. Development research is a needs analysis that can evaluate a product's efficacy to ensure that it can be used by the general public. (Sugiyono, 2007: 407).

Creating model products and evaluating the efficacy or quality of the final products are the two phases of the development research process (Sukardjo and Lis Permana Sari, 2009: 66). The ADDIE model is one of the development models used in development research. As said by (Hidayat et al., 2021) ADDIE was developed by two influential experts, Reiser and Molenda (1990). Although actually both have different formulations in visualizing ADDIE. Reiser's formulation of ADDIE uses verbs (Analyze, design, develop, implement, evaluate). Reiser's description revises the steps

or phases in the ADDIE model. While Molenda's description of the ADDIE component uses more nouns or nouns (analysis, design, development, implementation, evaluation) regarding the ADDIE component . The ADDIE development model is a learning design model that is predicated on an interactive system approach that is both effective and efficient. Specifically, the outcomes of assessing each phase can propel learning development forward to the subsequent phase. The initial product for the following phase is the outcome of the previous one. The five primary stages or phases of this model are: 1) Analyze; 2) Design; 3) Develop; 4) Implement; and 5) Evaluate.

Chaeruman (2008) states that the ADDIE model has the following stages:

- a. Stage of analysis is the first step in determining what the students will learn. Therefore, we must perform a number of tasks in order to ascertain what needs to be learned, such as task analysis, problem identification, and needs assessment (needs analysis). As a result, the output we will generate will take the shape of potential learners' traits or profiles, gaps in knowledge, needs, and a thorough task analysis based on those needs.
- b. Stage of design : sometimes referred to as the creation of a design. Similar to a building, a blueprint or design drawing must exist on paper before it can be constructed. During this design stage, what do we do? We first create learning goals. The test is then created, and it has to be based on the previously developed learning objectives. Next, ascertain which learning approach is best to accomplish these objectives. There are numerous combinations of techniques and media available in this situation from which to select the most appropriate. Additionally, take into account additional supporting sources, such as pertinent educational materials, when determining the ideal nature of the learning environment.
- c. Stage of development : the process of turning the blueprint or design into a workable product. If the design calls for the development of

multimedia learning software, or if a printed module is required, then that software must also be developed. This also holds true for additional learning settings that aid in the process of learning. Everything needs to be ready at this point. Testing prior to implementation is a crucial step in the development stage. In fact, the testing phase is a component of the evaluation ADDIE step. More accurately, formative evaluation, as the outcomes are applied to enhance the created educational framework.

- d. Stage of implementation: This is the actual phase of putting our newly developed learning system into practice. In other words, everything that has been developed up to this point has been configured to fulfill its intended role or function in order to be put into practice. For instance, if a specific piece of software is needed, it needs to be installed. If the environment's arrangement needs to be certain, then it needs to be made certain and arranged as well. Then, it is put into practice in accordance with the plan or scenario.
- e. Stage of evaluation: The process of determining whether the learning system under construction is successful and meets initial expectations is known as evaluation. Actually, any of the aforementioned four stages can include the evaluation stage. Formative evaluation is the term for evaluation that takes place at each of the four stages mentioned above with the intention of identifying revision needs. As an example, formative evaluation may be required during the design phase in order to get feedback on the design we are creating from experts. During the development phase, we might require a small group assessment or a pilot test of the product we are creating.

B. Interactive Application

An interactive application is a computer program or software that allows users to engage with it in a dynamic and responsive manner. Unlike static applications, which simply display information, interactive applications enable users to input data, perform actions, and receive real-

time feedback or results. These applications are designed to facilitate two-way communication between the user and the software, often through graphical user interfaces (GUIs) or other intuitive means.

Technology was seen as holding the key to a more promising future and society (OECD, 1998; US Department of Education, 2017). Since this civilization was at the forefront of human advancement, ushering in a new era of education that sparked a revolution (Collins & Halverson, 2010), and advancing humankind, it has proven useful, especially considering that its modern accomplishments are technological. Raja and Nagasubramani (2018) claim that technology has changed education and opened up new avenues for learning. Teaching professionals who comprehend the connection between technology and education recognize the use of technology in curriculum building (Falloon, 2020; Sabzian et al., 2013; Black, 1998). In order to introduce technology into the Philippine educational system, the Department of Education (DepEd) worked (DepEd Order 23, s. 2004). Studies have shown that the effectiveness and quality of education have significantly increased with the use of computers in the classroom (Ghavifekr & Rosdy, 2015; Cingi, 2013). Education has become more accessible and comprehensible with the introduction of digital learning/e-learning, as well as the growth of mobile technologies and the internet (Al Rawashdeh et al., 2021; Magdalene & Sridharan, 2018).

C. Android Based Application

According to lutfia, Android is a Linux-based operating system for mobile devices, such as smartphones and tablets. An operating system (OS) is a group of programs that provides general services to software applications and controls the hardware resources of a computer. The operating system is the most important software component in a device because without it, users cannot run application programs on their devices unless they are self-booting. Thus, the Android operating system can be defined as a software that operates on devices such as tablets and smartphones that satisfy certain specifications.

Software or programs created specifically to run on the Android operating system are referred to as android-based application. These applications can be of many different kinds, such as productivity, gaming, educational, and other apps that are made especially for Android-powered smartphones. Software created in a programming language that works with the Android operating system is known as an Android-based app. These applications are made to function on Android-powered mobile devices, like tablets and smartphones. Via the Google Play Store, users can download and install these apps, which offer a variety of features including communication, productivity, education, and entertainment. These applications are essential in offering a vast range of services and experiences to users of mobile devices based on the Android operating system, given the sizable user base of Android.

D. Vocabulary

There is a connection between vocabulary and skills like speaking, listening, reading, and writing. " The foundation for assessing a person's proficiency in speaking, listening, writing, and reading is their vocabulary, which is their capacity to acquire language.," claim Richards and Renandya (2002:255). This remark can be interpreted as meaning that vocabulary plays a crucial role in communication since it allows one to express thoughts, feelings, and other types of feelings and wishes. Vocabulary is one idea that students should grasp and be in control of since it is linked to their English language skills. A vocabulary collection is defined as "a collection of words from a language used in various domains of skills such as reading, speaking, writing, and listening."

Vocabulary mastery is one of the requirements for researching English as a foreign language at the elementary, middle, and advanced levels. A person's knowledge or abilities in comprehending and mastering words are referred to as vocabulary mastery. As stated by Schmitt (2000: 5), vocabulary mastery is crucial for learning English since it allows one to access a greater range of knowledge.

Rivers (1972) stated that it would be impossible to learn a language without vocabulary. Learning a language means learning its vocabulary. It means that vocabulary is the most important thing in language. A language will be meaningful because of its use of vocabulary. According to her, mastering a language is essentially synonymous with mastering its vocabulary. This is because vocabulary forms the foundation of meaningful communication in any language. Without an adequate vocabulary, it would be impossible to effectively understand or convey ideas, making it the most crucial element in language acquisition. Essentially, vocabulary gives substance to language, enabling it to be used meaningfully in various contexts.

Additionally, Vossoughi and Zargar (2009: 80) claim that a lack of knowledge of languages and a lack of understanding of meaning will make communication difficult and meaningless. This implies that a person will be able to articulate their views and have effective communication skills by expanding their language mastery. Vocabulary's Components According to Lado, who is cited in Mardinawati (2012: 11), there are a number of factors to take into account when learning vocabulary, including the following:

1. Meaning

Understandings should be taught the importance of meaning as they gain language.

2. Spelling

Because this can improve the connection between letters and sounds, spelling and reading go hand in hand. As can be observed, some words are pronounced differently than they are written, for example, Not all pronunciations of the letter (I) are /I/.3.

3. Pronunciation

Pronunciation is the process of giving words and letters the correct sound. Learning pronunciation is challenging because not all words have a spelling equivalent.

4. Word Class

Word class is used in semantic analysis. Word class is a crucial component. Word classes fall under the headings of nouns, adjectives, verbs, adverbs, and prepositions.

E. Previous Research

The first previous research from (Hamzah, 2019) "Developing English Vocabulary Material Based Android For The First Grade Students". The research employed a Research and Development (R&D) design model, involving three main stages: Design, Development, and Evaluation. The participants consisted of 64 students and using random sampling consisted of 30 students. The research used need analysis guides to assess the needs of the students. The results showed that the students' perception toward the English vocabulary material was good. The second previous research from (Rachmat Setiawan et al., 2022) "Interactive English Teaching and Learning Based on Mobile Application" conducted by Panji Rachmat Setiawan and Arbi Haza presents a comprehensive research on the development of an interactive English learning application using mobile technology. The research employed a Research and Development (R&D) design model, involving three main stages: Design, Development, and Evaluation. The participants consisted of two or more students in Indonesia. The research used interview and observation guides to assess the needs of the students. The results showed that the application can be used as learning media for high school students and helped in learning English. The third previous research from (Hery Santosa et al., 2020) "Developing Android-Based English Vocabulary Learning Materials For Primary School Students" presents a comprehensive research on the development of an Android-based application for English vocabulary learning for primary school students. The research employed a Research and Development (R&D) design model, involving three main stages: Design, Development, and Evaluation. The participants consisted of 5 English teachers and 2 technology experts to find out the quality. The research used questionnaires and interview guides to assess the needs of the students and teachers. The results showed that the application has a very good quality and ready to be installed and used in

Android smartphones. An effective use of the application with meaningful learning activities for vocabulary learning for young learners are strongly suggested. The fourth previous research from (Puspitasari et al., 2022) "Android-Based Mobile Application for Vocabulary Learning". This research presents a comprehensive research on the development of an Android-based application for English vocabulary learning. The research employed a Research and Development (R&D) design model, involving three main stages: Design, Development, and Evaluation. The participants consisted of 20 students and five teachers randomly selected from two Senior High Schools in Indonesia. The research used tests, guiding interviews, guiding observations, and questionnaires to assess the needs of the students and teachers. The results showed that the students need help remembering unfamiliar and mastering the meaning of foreign words.

Both this research and the earlier one mentioned above have similarities and differences. The similarity lies in their use of the research and development method. However, they differ in that this research focuses on the application of English vocabulary at the university level, whereas the earlier research may have had a different focus or target audience.