

CHAPTER II

LITERATURE REVIEW

This chapter is divided into two major parts that presents a discussion about theoretical framework and previous study. Theoretical framework comprise related the theorist in this study, while previous studies discuss the implementation of that related theorist in prior studies.

2.1. Theoretical Framework

Concerning to Roth, Radford, and La Croix, (2012), that theoretical framework guiding this study at all levels to the activity theory. It means this unit serves the theorists of scholars and researchers which disscuss in particular about learning vocabulary, mobile-assisted language learning (MALL) and Memrise application.

2.1.1. Learning Vocabulary

Vocabulary learning in foreign language teaching and learning has been an area of interest and research for decades, supported by the prolific research published in the last 30 years. Once language learners have acquired basic skills in the language, and have acquired the commonest words in the language, they have hard work ahead as the lexicon of English, or any language is extensive. Vocabulary is central to reading ability, writing and listening abilities, and particularly for second language knowledge, for academic achievement (Willis & Ohashi, 2012).

Meanwhile, learning vocabulary considers knowledge of words and word meaning (Nurdiansyah, Asyid, & Parmawati, 2019). To be continued, Stahl (2005) disclosed that vocabulary knowledge is knowledge of a word not only implies a definition but also implies how that word fits into the world. Vocabulary knowledge may be receptive, associated with a learner's ability to understand a word encountered when listening or reading, productive, and associated with a learner's ability to use the word when speaking or writing (Schmitt, 2014). The two types are often perceived as lying on a developmental continuum, with knowledge shifting from receptive to productive mastery over time (Ardasheva, Hao & Zhang, 2019).

In turn, vocabulary learning could be intentional or incidental (Hulstijn & Laufer, 2001). Intentional vocabulary learning refers to the learning activities explicitly focused on acquiring new vocabulary, such as learning selected target words using word lists. By contrast, incidental vocabulary learning refers to learning activities not explicitly aimed at vocabulary learning, such as when learners acquire new vocabulary simply from watching second language (L2) videos or playing online games without a specific goal of learning new vocabulary.

Vocabulary becomes the foundation of every language, as Schmitt (2008) revealed that vocabulary is an essential component of a language which makes the learning of new words a crucial element of language pedagogy. Schmitt & Schmitt (2011) stated that learning vocabulary is the foundation for English

language learners who are just getting started learning English. Schmitt, (2014) concluded that vocabulary knowledge also constitutes a receptive, associated with a learner's ability to understand a word encountered when listening or reading, or productive, associated with a learner's ability to use the word when speaking or writing.

Occasionally, learning words or lexical processing becomes subconscious way (Azwar, 2021) due to the variety of complex words should be learned. This is supported by Brown (1988) that vocabulary in English involves not only simple words in various aspects, but also complex words and compound words in meaningful language units. Specifically, English vocabulary belongs to a package of words used in a particular context (Jackson & Amvela, 2007). In other words, vocabulary is a wordstock in a certain context.

Various studies suggested that to increase English vocabulary proficiency and comprehension, it is better to put vocabulary in context with "easy-to-understand explanations" (Biemiller & Boote, 2006; Stahl & Fairbanks, 1986). Regarding learning, an easy-to-understand explanation method must be utilized such as technology or mobile device, because they can operate learning vocabulary relying on their willingness to learn. Situated language learning is a means for achieving goals such as more meaningful learning (Comas-Quinh, Mardomingo, & Valentine, 2009) or context-dependent vocabulary learning. (Wong, Chen & Liu, 2010).

Learning vocabulary can be also obtained from speaking, writing, and listening, including reading skills. Technology provides many opportunities for students to improve literacy skills, including literacy skills, and vocabulary strategies, and it also offers students technologically driven practices of reading and writing instruction (Reutzel & Cooter, 2013). Some researchers also have recently found that the use of new technology certainly is a powerful vocabulary instruction ally and aid to all readers when they use listening, speaking, and interacting application (Watts-Taffe & Gwinn, 2007) to practice parts of speech (verbs, nouns, adjectives, and adverbs) for language structures (Reutzel & Cooter, 2013).

In fact, vocabulary knowledge is a major determinant of reading comprehension and language achievement for all learners (Kieffer & Lesaux 2012; Nagy & Scott, 2001; Nation, 2001). The awareness of the vital role of vocabulary knowledge has led to a theoretical foundation followed by empirical studies focusing on effective vocabulary acquisition in both first and second languages (Hairrell, Rupley, & Simmons, 2011; Nagy & Scott, 2001).

There are abounding tools such as dictionaries, mobile applications, flashcards, books, and articles to earn vocabulary. Moreover, in conventional methods, the educators utilize flashcards or textbooks to increase student vocabulary. Some literature showed that technology has changed the learning atmosphere from direct teaching to digital platforms such as mobile applications (Burston, 2014).

Several pieces of research have demonstrated that mobile applications bring about improvements in different language skills including spelling, reading comprehension, and listening comprehension (Hao, Lee, Chen, & Sim, 2018); phonology (Kim, 2013), grammar in a language other than English, here Spanish, (Castaneda & Cho, 2016; Rachels & Rockinson-Szapkiw, 2018), writing through WhatsApp (Awada, 2016), and also the main focal point of this study, namely vocabulary acquisition (Hao et al., 2018; Rachels & Rockinson-Szapkiw, 2018; Rosell-Aguilar, 2016, 2018). Moreover, this study uses mobile-assisted language learning (MALL), particularly the Memrise application in facilitating students acquiring vocabulary.

2.1.2. Mobile Assisted Language learning (MALL)

Mobile assisted language learning (MALL) has largely been an interesting field of research for scholars from the beginning of the 21st century. One of the aspects of MALL which has largely been emphasized in different studies is the mobility of devices that allows users to have unlimited access (Cherian & Williams, 2008). Similarly, Burston (2014) argued that while mobile-assisted language learning (MALL) has existed now for nearly 20 years, the capability of mobile devices has improved enormously, particularly with mobile telephones which have incorporated the functionality of hand-held computers and audio-video recorders and players. However, as previous reviews have shown (Burston, 2014; Kukulska-Hulme & Shield, 2008), pedagogically MALL has been constrained to behaviorist, teacher-centered, and tutorial applications. It has

likewise been slow to exploit the communicative potential of available technology.

Additionally, Lin and Lin, (2019) argued that mobile-assisted language learning (MALL) has been a popular research area in recent years in the SLA field, as it has been considered as being able to facilitate language learning by offering an authentic, socially connective, contextually sensitive, and personalized mobile-mediated language learning environment. Mobile devices mediated either can be effectively exploited to adapt instruction to the physical environment of learners. Likewise, the communicative function of mobile phones can be utilized to foster productive learner-learner interactions study.

Several synthesis studies on mobile-assisted language learning (MALL) also have been conducted in the past decade (2005–2018). These studies examined the field from various perspectives, such as different types of mobile devices, the methodological aspects of the MALL designs, different educational levels of learners, and the research topics. The majority of these meta-analyses reported the effect size and magnitude of the effectiveness of the overall mobile technological-based treatment effects on second language acquisition (SLA) and generally supported the use of mobile technology as learning tool for second language acquisition (SLA) (Lin & Lin, 2019).

Regarding Zhang, Song, and Burston, (2011), mobile-assisted language learning (MALL) offers students a convenient approach to the intentional study of high-frequency words that could incorporate a range of theoretically sound study

methods such as automated spaced learning, computer adaptive flashcards, and receptive or productive quizzing. It has been claimed to play an important role in enhancing students' vocabulary acquisition.

Mobile assisted language learning (MALL) has been used extensively in higher education and it also provides significant contributions for learning specific English particularly vocabulary acquisition as one of the fundamental English learning for students (Burston, 2014). Vocabulary and grammar drills are relatively easy to program and they could be self-correcting through application as one of the MALL devices (Sung, Chang, & Yang, 2015). Short and simple exercises also lend themselves to the very fragmented kind of learning that typifies mobile conditions, anytime and anywhere which most often equates with brief time periods squeezed between other activities. Regarding the previous studies on learners' perspectives on MALL, Kennedy and Levy (2008) found that a large number of the learners who had used the MALL in learning vocabulary perceived it as quite useful and stimulating.

Furthermore, in Indonesian certain research shows such Alhadiah, Sato and Burden, (2020) confirmed that mobile assisted language learning (MALL) as a tool for language learners to learn language because of its utility both within and outside the classroom. Concerning that vocabulary learning is such an important part of the language learning process, a variety of programs and mobile applications have been created to aid vocabulary learning. However, the efficiency of mobile assisted language learning (MALL) tools may be established

by studying the perceptions of users, who in this case are learners, as Beres (2011) pointed out that learners do not always view the effectiveness of learning tools in the same way that educators do.

It is obvious from the preceding related research studies that MALL plays an important role in providing as well as assisting teachers or lecturers and students in improving the quality of their teaching and learning activities both inside and outside the classroom. Besides, it also can be conceived that MALL is one of the digital literacy tools to promote the students' self-regulated learning, particularly in enriching their mastery of vocabulary learning for long-term memory. Considering the importance of MALL, this study attempts to explore it more deeply which is the main excuse this study concerns Memrise application as one of the device-based MALL.

Huang (2015) mentioned that in mobile assisted language learning (MALL) there is a new vocabulary software program which is called Memrise application that not only provides students with visual information in establishing vocabulary competence but also supported struggling readers in improving their decoding and spelling skills. While working on software programs or in the Memrise application, the students could highlight any unknown words, and the system of the program would break the words up and pronounce them slowly.

2.1.3. Memrise App

Memrise App as A Language Learning System



Picture 1.1

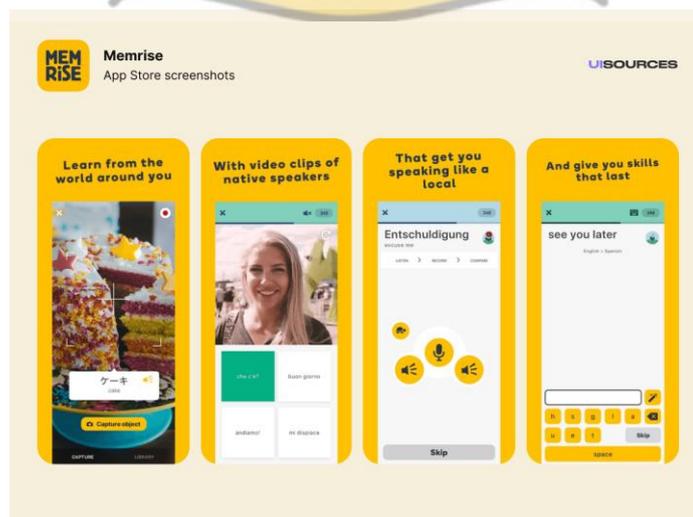
Memrise a language learning application developed by an American company of language technologies that enable users to master a foreign language with their Mobiles without the help of a teacher (Nuralisah & Kareviati, 2020). The application guarantees the users they can learn a language much quicker and easier than ever previously. This application also serves various underpinning features that comprise multiple-choice, audio-listening, speaking, spelling, and rearranging words and sentences. Karjo and Andreani (2018) classified the challenge features or items into five types: word translation, flashcards, challenges for audio choices, the typing question, and phrase translation.

In addition, Memrise application grows rapidly and now more than 50 million people in various countries around the world are learning languages with this application. Karjo and Andreani (2018) continued that the Memrise application is a vocabulary-building online learning platform that was founded by Ed Cooke and Greg Detre that offers 20 languages, including English, Korean,

French, Spanish, Japanese, German, Russian, Chinese, Vietnamese, Portuguese, Swedish, Norwegian, Danish, Arabic, Dutch, Indonesian, Italian, Polish, and Turkish. Neither students nor people can use the Memrise application to learn vocabulary in a variety of languages (Chau & Huong, 2021). However, this study only specializes in the English vocabulary learning process.

Memrise offers comprehensive vocabulary learning through reviewing to reinforce the students' word retention. This application is available on computers as well as mobile apps for smartphones and tablets. Memrise application assists learners to learn and recall words and their meanings by using audio, visuals, and creative activities that can be used both in and out of the classroom. Due to it being very basic and straightforward to use, this application can be used in the teaching and learning process.

Memrise App-Based Vocabulary Learning



Picture. 2.2

Zhang (2019) stated that the Memrise application is built on three scientific principles that help users to learn new words. The first principle is elaborative encoding that assists users to connect each new word with its meaning by using “mems” which are like mnemonics, etymologies, amusing videos, photos, and some instance sentences. The “mems” stimulate users’ senses imagination, and emotions to make their memories last longer. The second principle is choreographed testing with various testing types to strengthen the memory and keep learning interesting. The third principle is scheduled reminders which help users to revisit what they have learned right before the memory fades completely or on a history feature where they could find the time and target of their learning progress. Every level is designed for thematic vocabulary such as “we are family”, “let’s eat”, “and traveling” and so on.

Memrise application utilizes reviewing system in the learning process in which the reviewing of the new words is intertwined, with each new word first introduced with a flashcard and then reviewed repeatedly through four testing types such as multiple choices, listening, speaking, spelling, and rearranging (Esmaili & Shahrokhi, 2020). Once the users complete such ten review tests, their new flower memories finish growing, but when a test question is answered incorrectly, the site will automatically return the learner to the initial flashcard with the relevant vocabulary item for the learner to review and then return to the test environment to continue the learning process, that is the way this app works. Various features of this Memrise app could be utilized such as profile, setting, class level, instructions, target choice, time arrangement, and so on.

Several researchers on the use of the Memrise application to learn vocabulary have yielded considerable results. Walker (2015) discovered that the Memrise application was more effective in enriching students' vocabulary. Similarly, Abarghoui and Taki (2018) published that the goal of the study was to look at what students thought about the effectiveness of direct teaching of mobile-assisted language learning (MALL). The researchers revealed that the Memrise application is considered very effective as a source of learning rather than direct instruction. Furthermore, Nuralisah & Kareviati (2020) wrote a research that said that the goal of the study was to increase students' vocabulary understanding and achievement through the use of the Memrise application.

Other researchers such as Nushi and Eqbali (2017), Jacob and Daniel (2018), and Abarghoui and Taki (2018) have noted that the most crucial reason why the Memrise application is the most acceptable application for students to possess a rich vocabulary in a foreign language, particularly in English, is that it is designed in the gamification learning process, such as first, it made learning new words into a game where users grow a garden of flower-memories. Whenever users start to learn a new word, they plant a new seed of memory, and every time users review a word, they help the flower to grow a little bit until it finishes growing after completing ten successful tests or some kind of questions. Users need to review words periodically to keep the flowers from fading. Second, users earn points by learning and reviewing all the courses they are learning, and as they gain more points, they go up a badge level.

Memrise application offers two types of leaderboards; course leaderboard that shows users, where they rank against other people who have enrolled in the same language course, and the Mental leaderboard, which shows users where they rank among their group members and followers (Zhang, 2019). Memrise also adopts the audio-lingual method in which language is learned through constant repetition via various instructional testing types, and negative feedback is given when a test is answered incorrectly.

This application in terms of Memrise application could be a great supplementary tool for learners who would like to strengthen the memory of the vocabulary items they have already learned elsewhere, or for learners who would like to expand their vocabulary in the target language due to learners are given the option to customize their own learning pace whether to opt-out of tests using audio or the rearranging test type, and to freely select among available activities such as learn new words, classic review, speed review, listening skills, learn with locals, chatbots, and grammar bots. Thus, the Memrise application is suitable for learners with various learning styles. In addition, the feature of providing learning progress statistics appeals to learners who use monitoring as a learning strategy (Hamer, 2021).

2.2. Previous Study

This section provides a general overview of the previous relevant studies considering learning vocabulary relying on technology. Numerous technology tools are often utilized by many learners, one of them in this study is mobile devices in terms of Memrise application. Memrise application has revolutionized

and contextualized English language learning, particularly the vocabulary field. Deng (2015) stated that the use of mobile devices has been increasingly used in educational settings and was found prominent to assist users to become more effective learners, new applications often bring uncertainty to students and teachers of English learners as to how to use them to support language development. As Blachar and Farstrup (2011) observed, teachers, are struggling to keep pace with the speed of technological development and demand. Nevertheless, learners and educators should endeavor to explore and integrate new technology into teaching and learning.

On top of that, language learning is gradually becoming easier for learners because they can now use their computers or phones to access the learning lessons from wherever they are outside of the classroom. Continuous advancements in technology enable students to learn the English language without taking a formal English class. This means that learners can learn the language without necessarily attending classes because they can teach themselves. There are numerous tools that learners can use in language learning. These tools are user-friendly because they are programmed in such a way that it is easy for any learner to use them (Alsulami, 2016)

A recent study from Suhua (2015) has also indicated that the integration of vocabulary instruction into content areas and access to interesting electronic texts contribute to students' interest and motivation to learn. Students' interests and curiosity can affect their performance and serve to maintain students' motivations and engagements. Students were more engaged in the vocabulary software

programs and played with animated characters and interacted with words is powerful for fostering young studies findings that interacting and playing with words is powerful for fostering young children's literacy development and vocabulary growth (Penno, Wilkinson, & Moore 2002).

Another primary study is by Deng and Trainin (2015) who discovered that English vocabulary acquisition is a major challenge for English as a second or foreign language learner to become proficient in English. Addedly, some empirical studies have been conducted, one of those by Basro-glu and Akdemir (2010) who recruited 60 university students to compare the effectiveness of learning English vocabulary via mobile phones versus conventional flashcards. The findings of their experimental study indicated positive effects from the participants' mobile learning, as well as a positive attitude towards learning English vocabulary. Even though there is a myriad of students who perceived vocabulary learning as one of the major challenges foreign language learners confront during the process of learning a second or foreign language, Azwar, (2021) supported that learning vocabulary or lexical processing is a mostly subconscious process.

Therefore, needs a new way that languages are learned, through technology that assists students to learn languages, particularly vocabulary acquisition. Most researchers have either examined whether mobile vocabulary learning methods outperform traditional paper-based learning methods or have evaluated the effectiveness of vocabulary learning outcomes after learners use mobile apps or programs (Lin & Lin, 2019). Learning vocabulary through

personalized mobile applications involving word games or flashcard reinforcements either increases word retention of learners' interest in mobile vocabulary learning.

The earlier study such Cohen and Ezra (2018) supported that learning vocabulary with mobile assisted language learning (MALL) has been created the contextualized learning, which confirmed that it can be prominent in learning vocabulary. The other study such Lambe, Ciccone, and Swinnerton, (2016) revealed that nowadays, digital technologies are widely used for formal language learning and non-formal and informal settings. The use of digital technology for learning may be advantageous in terms of learners' engagement, convenience, attainment, and enjoyment.

Meanwhile, Weigle (2005) added that dramatic advances in globalization and technology have not only had a great bearing on the development of written communication, but have also affected the way people of different languages, cultures, and occupations communicate. Therefore, the rapid development of communication technologies in recent years has opened new avenues for education (Reynolds & Anderson, 2015). Hence, mobile devices are acknowledged as a delivery channel with great potential for sustainable learning (Khanna & Singh, 2011).

The previous meta-analysis study also has been undertaken by Taj, Sulan, Sipra, and Ahmad (2016) encountered that mobile assisted-language learning has emerged as a potential assistive tool in the complex process of language learning.

Technological advances in the last quarter of the last century have made it mandatory for teachers to employ technology as a tool to help in the process of teaching and learning. The present meta-analysis was conducted to synthesize the lesson learned so far in the field of mobile-assisted language learning (MALL).

Besides, some recent studies also have shown that the integration of technology such as mobile devices in teaching and learning gives significant input to the students. Mobile learning has been considered the revolution of e-learning in the teaching and learning process due to mobile learning enables students to study without any constraints of time and place, in other words, mobile learning can be a portable learning tool that supports teaching and learning (Mehdipour & Zerehkafi, 2013)

Paralelly, Mueller, and Archer (2011) researched students' learning with mobile technologies in and out of the classroom. It could be also revealed that students' learning using mobile technology promotes students' curiosity and creates a fun learning atmosphere. Another antecedent study such Naishmit, Lonsdale, Vavoula, and Sharples (2004) discovered that mobile devices, particular known as smartphones and tablets, have been extremely successful in providing users with 24/7 Internet connectivity and convenience of use, ubiquity, and a wide variety of multimedia contents, among which there can be found affordable, very often free, quality learning contents.

The integration of mobile technology into the students' learning brings positive impacts as it helps students to be more aware and responsible for their

learning. So, with technology, students can monitor their learning and develop their creativity as they could utilize the smartphone to access, search, and investigate any information related to their formal learning process and environment (Gikas & Grant, 2013). In addition, according to Rodinadze and Zarbazoia (2012) technology helps learners and teachers in studying the course materials owing to its fast access.

The advancements in technology have a key role in preparing learners to use what they learn in any subject matter to finding their place in the world labor force. Technology facilitates learners' learning and serves as a real educational tool that allows learning to occur. Ahmadi (2018) added that the use of technology has become a crucial part of the learning process either in or out of the class. In his study he found that every language class usually uses some forms of technology. It indicates that technology has been utilized to both assist and develop language learning process.

It also confirms that technology enables teachers to adapt classroom activities, thus enhancing the language learning advancement. Solanki and Shyamlee (2012) and Gilakjani (2017) supported the view that language teaching and learning method has been changed due to technology. They continued that the application of technology helps learner learn on the basis of their interests which is also satisfied both visual and auditory senses of the learners.

Technological tools in areas related to education, as Sulaimani, Sarhandi, and Buledi (2017) pointed out that have greatly influenced technology integration,

and the appearance of new methods, strategies, and technological tools in the field of language learning and teaching is a result of having access to the broad range of resources, which are provided through the use of the smartphone and computer. Using smartphones or mobiles in vocabulary learning is an area that has received significant attention from researchers over the last decade, as a variety of applications and programs for language learning, and vocabulary learning, in particular, have been developed for use with the technology (Godwin-Jones, 2011; Heil, Wu, Lee, & Schmidt, 2016; Stanley, 2013).

In some reviews of studies on lexical-related tasks from the last few years, the vocabulary size and lexical access speed were exercised occasionally with various tasks. These tasks were taken into consideration to work with different variables such as independent and source-based writing to comprehend lexical sophistication and the relation to the second or foreign language acquisition (Kyle & Crossley, 2016). In addition, other previous studies demonstrated the effectiveness of using mobiles in vocabulary learning and showed that learners have positive attitudes towards MALL-based vocabulary learning (Al Haidah, 2020).

Regarding the task or exercise, Memrise application serves that feature as one of the tool operations that assist the students to learn words through reviewing system, as Azwar (2021) argued in a review of studies in lexical-related tasks from the last few years, the vocabulary's size and lexical access speed were exercised occasionally with various tasks. These tasks were taken into consideration to work with different variables such as independent and source-

based writing to comprehend lexical sophistication and its relation to second language acquisition (Kyle & Crossley, 2016). The word frequency also plays an important predictor in completing lexical decision tasks (Juhasz, Yap, Raoul, & Kaye, 2019). Therefore, the available literature on mobile-assisted vocabulary learning indicates that the use of mobile applications results have been influencing vocabulary knowledge learning of whether EFL learners or non-EFL learners.

