

## **CHAPTER II**

### **LITERATURE REVIEW**

Vocabulary acquisition and listening comprehension are essential components of English language proficiency. The integration of technology, specifically artificial intelligence (AI), has the potential to revolutionize language learning methodologies. This chapter explores the connection between vocabulary, listening skills, and successful English language learning. It investigates how technology, particularly artificial intelligence (AI), can enhance traditional teaching methods.

Thus, this chapter will focus on the potential of AI tools, such as Memrise, to improve EFL students' vocabulary and listening abilities by delving the connection between ELT for EFL learners, AI in education, the integration of AI in language teaching, the Memrise platform, vocabulary and listening skills and Memrise for teaching vocabulary and listening. This chapter also includes some previous studies that can support this research, and hypothesis formulation for this study.

#### **2.1. ELT for EFL learners**

Nearly all the population in the world speaks English as a first language, a second language, or even as a foreign language, making it a widely acknowledged global language. For non-native speakers of the language, being able to master English has come to be considered impressive. Speaking English has evolved from being seen as marvelous to becoming essential to being able to participate actively in global society. Global needs and encouragement become an influence in society

to be able to master a global language, English. This need and encouragement become a reference for the education system to make English the main foreign language that Indonesian students must learn and master.

There are significant changes in the field of English Language Teaching (ELT) for English as a Foreign Language (EFL) learners over the past decade. ELT for EFL learners refers to the pedagogical method of English Language Teaching specifically modified for English as a Foreign Language learners, emphasizing language acquisition in circumstances where English is not the main language of communication or, in other words, is a foreign language. To offer English material to language learners, educators must be innovative.

English as a Foreign Language (EFL) learning presents unique challenges compared to English as a Second Language (ESL) contexts. Without access to the target language outside the classroom, EFL learners often face difficulties with fluency, pronunciation, cultural understanding, and vocabulary development. This chapter examines the current literature on effective English Language Teaching (ELT) strategies for EFL learners, focusing on their specific needs and challenges.

Several studies highlight the distinctive challenges encountered by EFL learners. Tahir (2017) investigates how explicit vocabulary training has been proven to greatly increase vocabulary acquisition, retention, and overall language competency, as well as its effectiveness in ESL/EFL settings, concentrating on learners' preferred techniques for vocabulary learning. Educators have to learn about learners' need for developing learners' autonomy and self-directed learning

skills, empowering them to take ownership of their learning journey. Tuchina et al. (2020) offer practical techniques to achieve this by explaining the correlation between selecting an educational pathway and building learner autonomy. Collie and Martin (2019) and O'Keefe et al. (2017) highlight the significant impact of motivation and engagement on educational outcomes, including task performance and persistence. Incorporating learner interests and culturally relevant materials can enhance learning outcomes and combat disengagement.

Strategies in ELT for learners must also be considered. A growing body of research explores effective ELT strategies for EFL learners to help teachers meet the challenges of teaching and learning. Rahmanita and Mukminatien (2019) believe that teaching English as a Foreign Language (EFL) should involve more real-life situations instead of just textbook exercises. The effectiveness of incorporating real-life language in English as a Foreign Language (EFL) classrooms is disclosed as advantageous for enhancing students' proficiency in EFL learning. Furthermore, encouraging spontaneous language use, utilizing authentic materials within real-life contexts, and fostering a learner-centered learning process in classrooms are also identified as strategies supporting optimization. On the other hand, Huckly and Dodeney (2018) advocate for incorporating technology, like online platforms and mobile apps, into ELT practices, providing personalized learning opportunities outside the classroom. Fisher and Frey (2010) recommend employing scaffolding techniques, such as providing clear instructions, breaking down complex tasks, and offering differentiated support, to ensure learners' success and build confidence.

Technological advancements significantly impact ELT for EFL learners. AI-powered platforms like Memrise offer personalized learning experiences and cater to individual student needs. Esmaeili and Shahrokhi (2020) find that EFL learners using technology significantly improve their vocabulary retention and usage compared to those using traditional methods. Alsadoon (2021) reports notable gains in EFL students' listening comprehension skills after incorporating technology into their learning routine.

## **2.2. AI in Education**

Since the 20th century has brought us into the digital age, where technology is integral to the creation and exchange of knowledge and information in the field of education, it is impossible to separate almost anything in life from technology, including education. Information, Communication, and Technology (ICT) have evolved throughout the years, leading to the creation of Artificial Intelligence than later developed into the world of education. The implementation of ICT is inseparable from the world of education nowadays as it provides benefits for teachers and students. The development of ICT then penetrated by strengthening the platform system or application using artificial intelligence technology.

Artificial intelligence (AI) is rapidly transforming the educational landscape, offering new tools and approaches for enhancing learning and teaching. This chapter examines the current literature on the potential and implications of AI in education, focusing on its impact on various aspects of educational practice. One of

the most promising applications of AI in education is personalized learning. AI-powered platforms can tailor learning experiences to individual student needs and learning styles, providing adaptive instruction that adjusts to their progress and performance. Studies of Wang et al. (2018), Pratama et al. (2023) and Tiwari (2023) demonstrate that personalized learning interventions driven by AI can significantly improve student outcomes across various subject areas.

AI-powered intelligent tutoring systems (ITS) can provide individualized feedback and support, offering students targeted assistance when needed. This allows for more efficient skill development and mastery. Dabingaya (2022) highlights the effectiveness of AI-powered ITS in improving student performance in mathematics and science, while Pokrivcakova (2019) emphasizes their potential for personalized language learning.

AI can automate administrative tasks such as grading, record-keeping, and student progress monitoring, freeing up valuable time for teachers to focus on personalized instruction and student interaction. Andersen (2022) acknowledges the potential of AI in reducing administrative burden on teachers as Ahmad et al. (2022) does while Pokrivcakova (2019) also explores the use of AI-powered assessment to provide more accurate and personalized feedback to students.

Despite the promising applications of AI in education, several challenges and concerns need to be addressed. Indeed, AI has the potential to revolutionize education, offering personalized learning experiences and increased efficiency, Jarrah et al. (2022) mention its implementation also has its challenges including

privacy and security concerns, lack of trust, cost, and potential bias. Furthermore, general problem needs to be considered by integrating AI in learning and teaching is the internet connection, and limited access for free users.

As AI technology continues to evolve, its impact on education is expected to grow significantly. Dabingya (2022) and Pratama et al. (2023) predict that AI will play a crucial role in personalizing learning experiences, supporting educators, and fostering inclusive and equitable education systems. Pedro et al. (2019) further emphasized the need for international collaboration and ethical guidelines to ensure that AI is used responsibly and effectively to advance education for all.

AI has the potential to revolutionize education by providing personalized learning experiences, automating administrative tasks, and offering intelligent tutoring systems. However, it is crucial to address ethical concerns and ensure a balanced approach that leverages AI alongside human expertise. As AI technology continues to evolve, collaboration and responsible implementation are key to harnessing its potential for a brighter future of education.

### **2.3. Integration of AI in English Language Teaching**

English has long been regarded as a foreign language that needs to be learned in the Indonesian context—many decades ago. Some schools start teaching English to students as early as the first grade of elementary school. In some schools, English is even used as the primary language for instruction and learning activities rather than Indonesian, which is the country's primary language. English subject is still a compulsory subject in higher education institutions like colleges and universities.

However, students frequently continue to struggle with mastering English until they are in their undergraduate years of study. Several things have influenced the students' struggles, including non-innovative teaching methods and the uneven distribution of resources for teaching English across the nation. It goes without saying that educators, particularly those in Indonesia, need to learn more about simple ways to teach this foreign language that needs to be studied so that students can grasp it easily when using the materials that have been provided. There are numerous ways that English teachers can use to teach this subject material and one of them is by integrating English language learning with AI-based technology for language learning.

Technology used in classrooms can improve teacher expertise and encourage and facilitate student learning. According to Johnson & Germain-Froese (2016), the incorporation of social networking, including its integration with online games and educational material, has been implemented in educational settings to enhance instructional support over the last decade. The use of ICT, such as interactive boards, tablets, smartphone, computers the internet is critical for maximizing benefits in teaching and learning objectives, as these tools have the potential to improve students' participation, productivity, learning efficiency, reduce costs, and attract students from various backgrounds (Gunuc, 2016; Alotaibi & Kumar, 2019). Abdu (2018) states about a collection of similar technology tools, applications, and techniques, beginning with the excitement provided by CALL (Computer-Assisted Language Learning), which preceded MALL (Mobile-Assisted Language Learning) and its allies which integrated in English language teaching. Tulasi

(2023) states that technological integration refers to the use of technology to enhance students' educational experiences, notably in language classes.

The general public's eagerness to learn foreign languages, particularly English, motivates programmers and linguistic experts to collaborate on AI-based programs for language learning. AI technologies are transforming the teaching and learning process in English language teaching. Combining both of these items offers an opportunity for those who want to learn or improve their foreign language skills in a simple and enjoyable way and helps educators in the process of English language teaching.

Numerous AI-based language learning platform have developed for years in the form of mobile application or website. Powers (2019) describes several AI tools for learning English such as Duolingo, Busuu, Mondly and Rosetta Stone and how they are used and influenced by learners. Meanwhile, Woo and Choi (2021) highlight about AI-tools and the language skills provided in these tools where each AI tool provides a varied target language skill focus; speaking and listening, writing, pronunciation, grammar, vocabulary, and reading; and also, its impact on language learning. Furthermore, a study concludes that the use of AI to enhance communication skills provides significant improvement results (Kim et al., 2021)

The use of AI tools in language learning enhance communication, critical thinking, problem-solving, and teamwork. Additionally, AI tools can enhance student learning strategies, lesson preparation, classroom activities, and administrative operations. Those aspects are emphasized by Zhao et al. (2019), the

use of AI-based education benefits students' academic achievement and is critical in overcoming words and vocabulary forgetting. Furthermore, teachers using an AI-enhanced scaffolding system may increase STEM students' scientific writing abilities (Kim & Kim, 2022).

As AI becomes more prominent, ELT must adapt, requiring teachers with expertise in both pedagogy and technology. Training English teachers on how to effectively use technology in the classroom is crucial as it becomes an increasingly important aspect of the teaching-learning process. Those are highlighted by Pokrivcakova (2019) on how to prepare teachers for the application of AI-powered technology in foreign language education such as summarizing eight types of AI-powered tools for foreign language education and discussing an effective preparation framework for foreign language teachers to integrate AI-powered tools into teaching them to make it easier, more time-saving, and more effective.

## **2.4. Memrise Platform**

### **2.4.1 Description of Memrise**

Memrise is a learning platform for language. Memrise was founded by Ed Cooke, a Grand Master of Memory, Ben Whately and Greg Detre, a Princeton neuroscientist specializing in the science of memory and forgetting in 2010. Memrise was launched in a form of website platform and mobile application. It has received various awards since its launch in 2010. Until 2023, Memrise has been recorded as providing courses more than 150 languages courses from 25 languages that can be learned by language learners

or users and it is accessible in some languages such as English, French, Spanish, German, Korean, Chinese, Japanese, Russian, Danish, Polish, Portuguese, Dutch, Swedish, Italian, Norwegian, Arabic, Turkish, Vietnamese, and Indonesian (Karjo and Andreani, 2018).

Memrise platform offers accessibility through various devices, such as laptops, smartphones, or tablets. Users can choose to access it either through the Memrise website or by using the Memrise application which can be downloaded via appstore or playstore. Learners allow to not register the account and directly use the platform or they are also able to sign up or sign in using a Google or Facebook account if they would like to make their progression system saved. This adaptability enables learners to interact with the platform fluidly, tailored to their interests and convenience.

Memrise claims bringing learners the experience of living abroad without having to fly there. First of all, Memrise will teach them English words and phrases that are used every day. They will also see videos of native speakers using these words with their typical pronunciations. Users can learn to use English in real-world scenarios. From navigating London's streets to ordering fish & chips, shopping, greeting new acquaintances, and connecting with family, they're going to learn the language as native speakers do in everyday life. Memrise's lessons are designed specifically for users and according to their interests or hobbies. After that, Memrise will present thousands of immersive lessons using video content from YouTube, TikTok, and various other sources, suitable for users' interests and language

proficiency levels. Research shows that watching videos that are slightly above the learner's level maximizes their learning speed.

Memrise is free to use, allowing users to begin learning a language without incurring any fees. With its free features, users can explore the platform's many courses and learning resources. Memrise provides the following features to its users who desire to learn languages:

1. **Gamified Learning Experience:** Memrise integrates gamification features to make language learning exciting and enjoyable. Users can earn points, compete with peers, and unlock achievements as they go through each class and to motivate users and make the learning experience more engaging.
2. **Randomized Repetition:** Memrise uses a randomised repetition approach to optimise the review of previously learned English words and phrases, allowing users to commit them to long-term memory.
3. **Mnemonic Techniques:** Memrise utilizes mnemonic devices and memorable associations to aid in the retention of vocabulary, making the learning process more effective and enjoyable.
4. **Interactive Learning:** The platform offers interactive lessons and exercises to engage users actively in the learning process, making it more effective and enjoyable.
5. **Real-life Contexts:** Memrise focuses on teaching English in real-life contexts, incorporating practical vocabulary and phrases that users might encounter in everyday situations.

6. **Rich Multimedia Content:** The platform includes multimedia content such as audio and video clips, helping learners associate English context.
7. **Mobile Accessibility:** Memrise is accessible on various devices, including smartphones and tablets, enabling users to learn on the go and sync their progress across different platforms.

Memrise is very easy to use. To increase the speed of learning and remembering memrise using a flash card repetition (Aminatun & Oktaviani, 2019). Łuczak (2017) mentions that Memrise is an educational tool to learn various subjects that is available online and in mobile device. In learning language especially, students can use Memrise to learn various aspects and specification, such as vocabulary, grammar, etc. It also allows the users to learn about many words of certain language or certain fields which will contain of the definitions, synonym, antonym, and even their pronunciation. Moreover, there are also specific English such as English for Business as it is also learned in the university this study took place.

#### **2.4.2 Procedure of using Memrise**

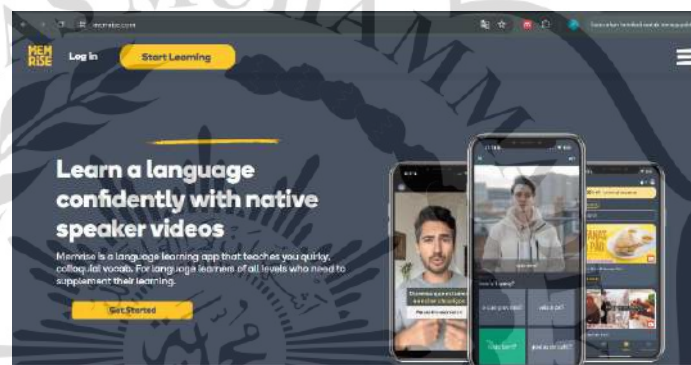
The technique for using Memrise for classroom practice is outlined below, with the teacher providing step-by-step instructions to the students.

Here are the steps:

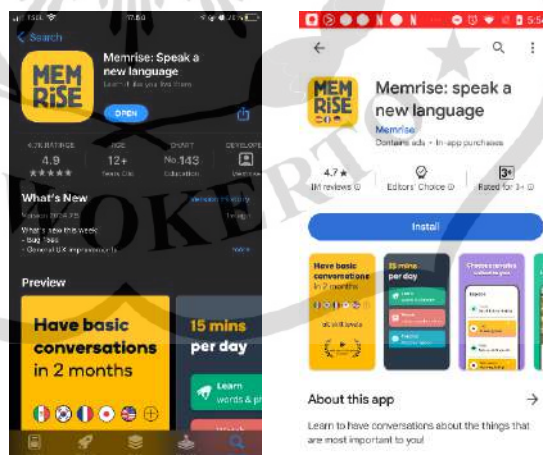
## 1. Memrise Access

Students must go to [www.memrise.com](http://www.memrise.com) from their PC or smartphone on browser. The other option to access Memrise is to download the app from the App Store for iOS or Google Play Store for Android on students' device, it can be smartphone or tab.

*Figure 1. The First page of Memrise platform from PC*



*Figure 2. Memrise application download on App Store (left) and Play Store (right)*



## 2. Creating an account

When the application or website platform is loaded, students can create an account, choose a username, or log in with their Facebook or

Google accounts. It is preferable if students create a profile because their progress will be saved if they switch devices. Once they have registered on the website and selected "sign in now," students can apply straight away.

*Figure 3 The first page of Memrise (left), register page of Memrise (middle), and log in page of Memrise*



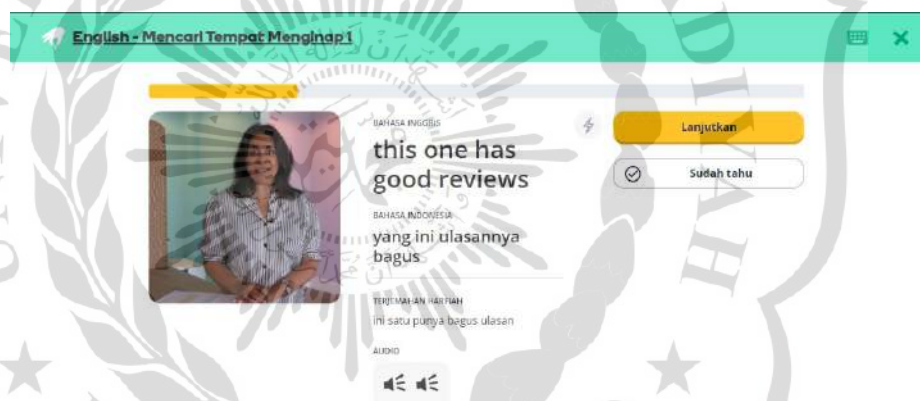
3. After successfully logging in, students will be asked to set study reminders for any day or time that works best for them. They will then be provided the option of subscribing, which will allow them to enjoy all Memrise features and the application without advertisements.

4. Start to learn the courses

The application will show some aspects to start the learning process, and students can choose the course that interests them. The Memrise program offers a number of tasks to assist students enhance their vocabulary and listening skills. As a result, when students use this application, they may have a positive learning experience.

The language part of the platform alone offers courses in over 200 languages. The course screen should show roughly how many hours it will take to complete. To make a course more manageable, it might be separated into levels. To select a course, click "courses" and filter by language or popularity, or search for keywords. When you've discovered a course that interests you, select it and then click "Start learning". The researcher-created training on hobbies and guess handling will be used specifically for this investigation.

*Figure 4 The Example of Material on Memrise*



First of all, students will be given the words and phrases they are going to learn in one course session. They will be given around 10 to 30 words and phrases on each session. Before continuing to the gamification by answering questions related to the material, around 4 to 6 words and phrases out of the 10 to 30 words and phrases on each session will be shown then the students could continue to respond answering the questions. Students will answer the question based on the

words or video that display on the page. One session will finish when the entire words and phrases in one session are taught on Memrise. When one session has finished, the students will be led to next level. In one session there will be several different types of questions in the form of gamification to make students don't feel bored to answer it. Here the figure 5, 6, and 7 are the example of the quizzes or question types on Memrise

*Figure 5 The Examples of Quizzes (type 1)*



*Figure 6 The Examples of Quizzes (type 2)*



**Figure 7 The Examples of Quizzes (type 3)**



The session will be shown video and audio to support students on how the words and phrases are pronounced and it help the to improve their listening skill the audio and video could be played repeatedly, in case the students don't comprehend the word and phrases. Students will immediately be given the correct answer, even if they choose to answer incorrectly. Students are also able to click the question mark column on the page if the students doesn't know the answer of the question, and they will be given the right answer. Students will receive point and progree once the session is done.

**Figure 8 Students' Progress on Memrise**



*Figure 9 Students Point on Memrise*



Each level has a specific quantity of words to learn, which changes according to the course. However, students have the option of deciding how many words they will be exposed to per learning session.

When students learn a new word, they are first given a flashcard containing the explanation of the term, as well as a mnemonic device of their choice (called mems) to aid in the formation of sensory memories. These mems can be videos, photographs, example sentences, or anything else that helps learners connect new words to ideas they already know.

Following first exposure to the target word, students' recall of the term is assessed frequently within that same session through activities such as entering the appropriate word for a given definition or picking the correct word for the given audio recording.

#### **2.4.3 Create course in Memrise**

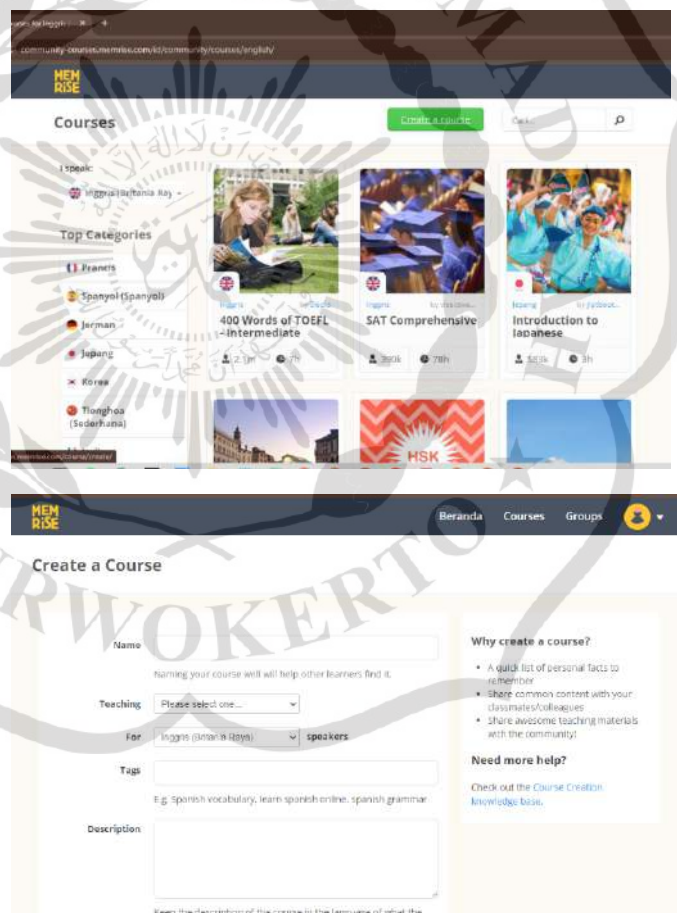
As a teacher in a formal school, the lesson given to the students must be in accordance with the syllabus, which refers to the applicable curriculum; hence, the instructor must present the necessary content. To make things easier, Memrise allows teachers to construct their own courses, with content that can be changed to match the subject in the syllabus. Here's how teachers can develop their own course.

1. Originally, teachers can create course when they access [www.memrise.com](http://www.memrise.com) on their pc. However, Memrise has undergone changes as of March 27 2024, where access to create your own courses is now separated from the Memrise website or

application. Teachers can now create their own Memrise courses via <https://community-courses.memrise.com>.

2. Teachers can create an account by signing up with their Gmail or Google Mail address. Alternatively, teachers can simply sign up using their Facebook accounts.
3. When teachers have logged in then click “Courses”, then teachers can click “Create a course”.

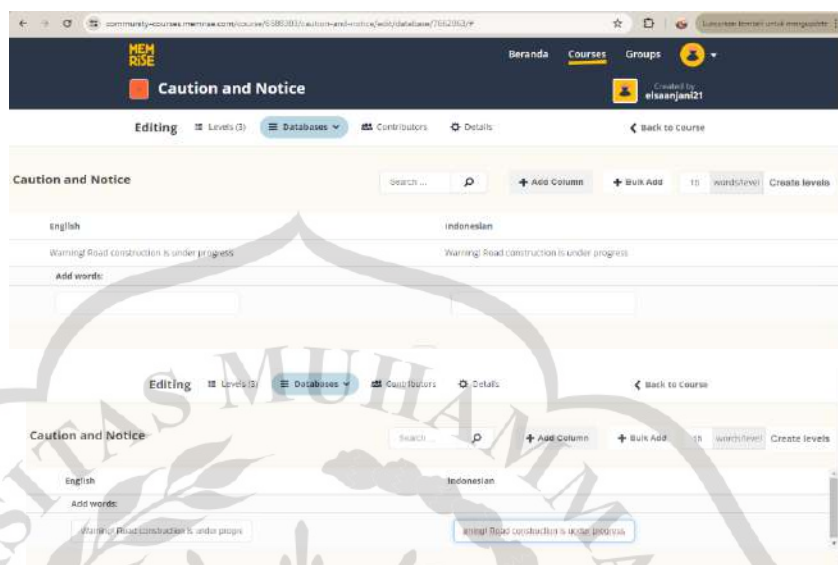
Figure 10. Create a course



4. Teachers fill up the relevant information about the course and then click CREATE COURSE on the blue box below the column



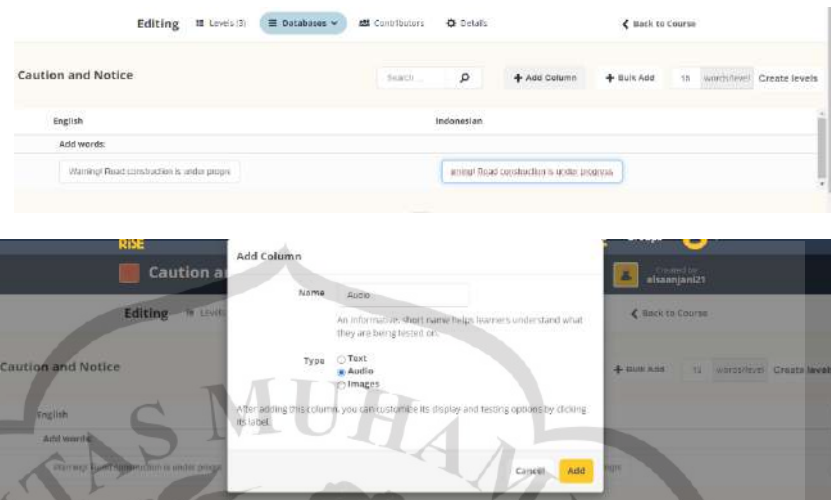
*Figure 12. Add words to teach or learn*



To add more words, teachers click (+) on the left side of the column box. Teachers can delete columns they do not require by clicking them and following the instructions in a pop-up box.

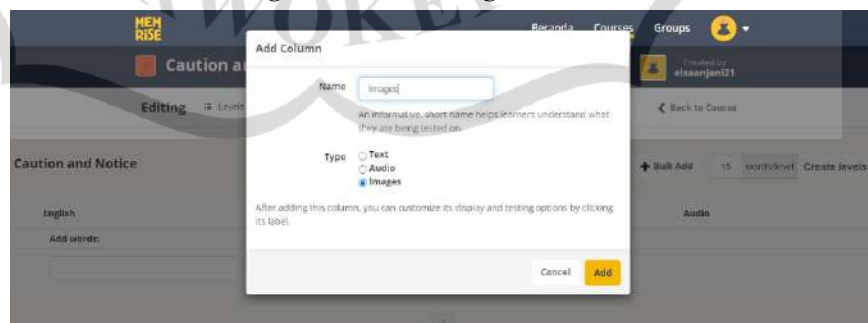
6. To upload audio files, navigate to your course's 'Edit' page, then click 'Databases' and pick the database to which you want to add audio. In your database, click on 'Add Column' and then select the Audio option:

**Figure 13. Add audio column**



7. To upload image files, navigate to your course's 'Edit' page, then click 'Databases' and pick the database to which you want to add image. In your database, click on 'Add Column' and then select the Image option. The step is similar to add audio, however to add images, teachers should click image option instead of audio. To add an image to a course, the teacher must download the image first in the browser and adjust it to the course's material.

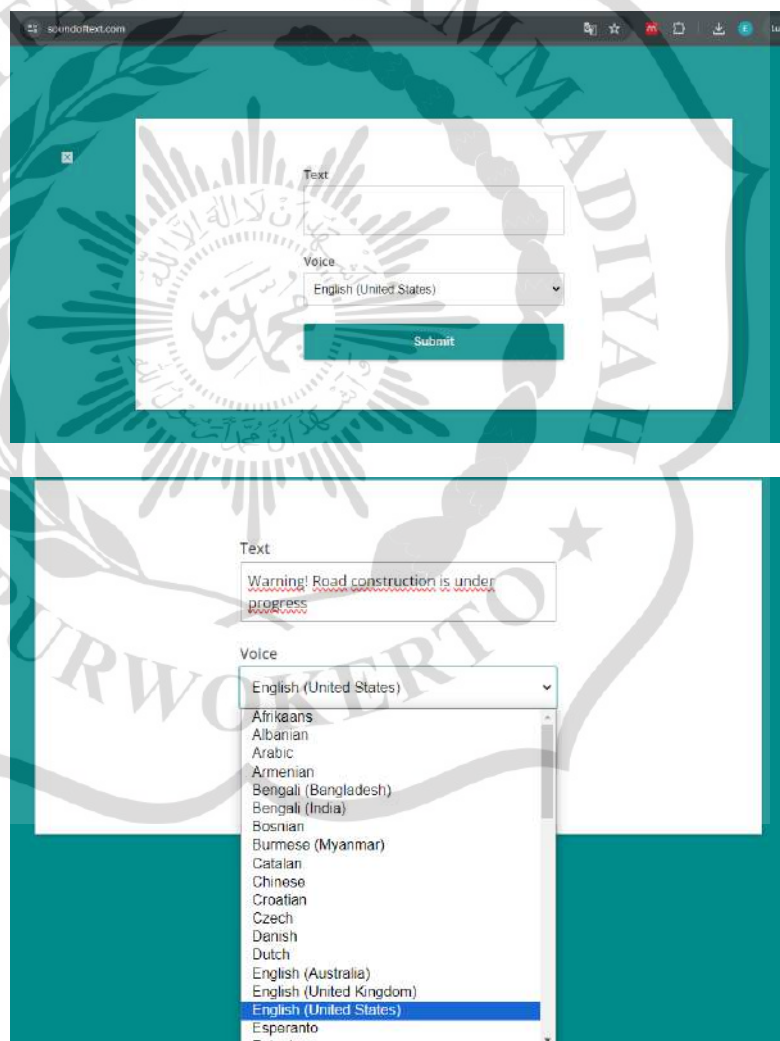
**Figure 14. Add image to the course**



8. If teachers wish to incorporate audio to their memorization course, they can follow this step:

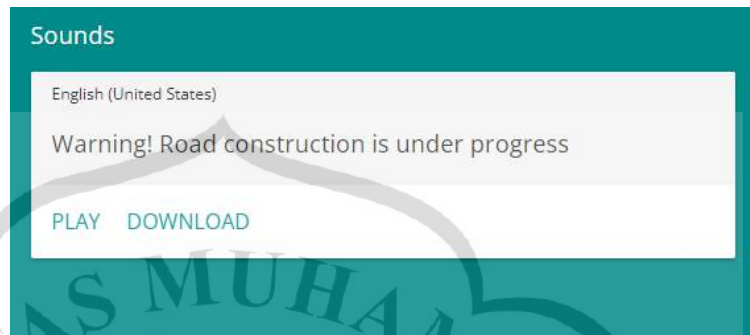
- a. Teachers need to go to <http://soundoftext.com/> page, to make and download audio.
- b. In the search box, enter the word or phrase whose pronunciation teachers want to hear (teachers can input phrases up to 100 characters), select the language word or phrase in the text column, and click SUBMIT.

*Figure 15. Soundoftext.com to produce audio*



- c. Save the result (i.e. mp3 file with the recording) on the below of the box and teacher can download the audio.

**Figure 16. Download the audio**



- d. Go back to editing teachers course on memrise.
- e. Upload the mp3 file to AUDIO column on memrise.

**Figure 17. Add audio and images to the course**



9. The same step goes to how to add image on the course. After downloading the image on the browser, teachers upload the image on the IMAGE column.
10. When teachers has already add the word on target language and the the meaning of the words, and add the supporting media such as audio and images, teachers also are able to add level of to the course. The button to add level is on the left bottom of the page.

**Figure 18. Add level to the course**



11. Once teachers already finish composing and creating their own course, they may be allowed to complete it by clicking the green bar on the right bottom of the page in order to save the course they have created.
12. When teachers have already finished creating a course on Memrise, yet still need to fix the course, they are able to edit the course once they already save it.

## **2.5. Vocabulary**

As described in the background of the research, vocabulary plays a critical role in effectively mastering English as a foreign language. There are multiple definitions from various specialists.

Alqahtani (2015:21) defines vocabulary as a set of terms used by a person, group, or profession. The Oxford Dictionary defines vocabulary as (1) all the words a person knows or uses, (2) all words in a language, and (3) a collection of terms and their meanings, particularly in books for learning foreign languages.

The foundation of language is vocabulary, which is crucial to acquire initially. Vocabulary refers to the collection of words and their meanings that an individual

knows and uses in a particular language. It encompasses a person's understanding of word definitions, spellings, and how words are used in different contexts. Developing a robust vocabulary is crucial for effective communication and language comprehension. It is true that if people do not master a language, they will never be able to communicate in it effectively. Even with a foreign language that sounds good, communication in any meaning would be impossible without words to convey the vast range of meaning (Nadya & Aswir, 2023).

Based on the explanations provided above, it is possible to conclude that vocabulary is a collection of words, or all words in a language, that people use to communicate thoughts and sentiments. These words consist of multiple letters and have meaning. Vocabulary is an essential component of language, forming the foundation for effective speaking, listening, writing, and reading. The more vocabulary you know, the better you will be able to grasp what you hear and read, as well as express your opinions or ideas while speaking or writing.

## **2.6. Listening Skill**

Listening skill is the ability to understand spoken language accurately. It involves not only hearing the words but also grasping the context, nuances, and subtleties of the speaker's message. Effective listening skills contribute significantly to language acquisition, facilitating better communication and comprehension in various settings such as conversations, lectures, or multimedia presentations.

Saha (2009) stated that listening is a skill linked to but distinct from hearing, which consists of passively perceiving noises. Listening involves active and quick examination of sound streams. This association is similar to that of seeing and

gazing. Seeing is a relatively ordinary and passive condition, whereas gazing is a focused action that necessitates the beholder's instrumental approach. Listening has a conscious element; in order to successfully recognize and analyze a sound, the listener must have both the desire to listen and the ability to listen (comprehension). What listening actually implies is hearing and interpreting what we hear during the process. Making connections between linguistic and non-linguistic cues, utilizing prior knowledge to predict and subsequently confirm meaning, identifying expressions and sets of utterances that act to create meaning, recognizing words, distinguishing between sounds, identifying grammatical groupings of words, and recalling significant words and ideas are some of the component skills that make up listening.

To put it another explanation, listening is a productive and active process that calls on one's cognitive faculties. In Weger et al., (2014) claimed that in order to understand what is being heard, a person's listening skills require prior knowledge. Furthermore, Hutchins et al. (2013) defined listening as a type of phonoreception, which is the process of sending language symbols and auditory signals to the brain for interpretation and analysis. It is a process that undoubtedly calls for vocabulary mastery. However, Alzamil (2021) claimed that listening is the most essential yet challenging language skill to master, even more so than speaking. Consequently, gaining insight into students' attitudes towards listening and identifying the difficulties they face can assist educators in enhancing their teaching methods for this skill. To sum up, developing one's vocabulary is essential to becoming a proficient listener.

## **2.7. Memrise for Teaching Vocabulary and Listening**

In accordance with Ur's propose framework (Yugafiati & Priscila, 2019), effective vocabulary mastery for students involves a multifaceted approach. Firstly, students must grasp the pronunciation and orthography of words to enhance both spoken and written language skills. Secondly, the integration of grammatical rules into vocabulary learning ensures a comprehensive understanding of syntactical nuances and facilitates accurate usage. Lastly, acquiring the meaning of words is paramount, establishing cognitive connections that make the learning process more meaningful and memorable. By addressing pronunciation, orthography, grammar, and meaning, this holistic strategy provides students with a well-rounded foundation for linguistic proficiency, promoting effective communication and a nuanced understanding of the language they are acquiring.

In the realm of vocabulary learning, Lelawati et al., (2018) delineate a three-stage approach to teaching techniques. Firstly, the "Technique presenting" stage involves the introduction of new words to students, emphasizing the need for English teachers to be adept in employing suitable vocabulary teaching techniques. Subsequently, the "Technique in active" stage encourages the utilization of diverse tasks to facilitate the transfer of words into memory. This active engagement enhances the retention and application of vocabulary. Lastly, the authors underscore the significance of media as a primary instrument in the teaching and learning process. Not only does it capture students' attention effectively, but it also simplifies the conveyance of information. Teachers are urged to incorporate visuals in their teaching activities, considering the diverse media available, with a particular

emphasis on the suitability of visuals for facilitating vocabulary learning among students.

Effective teaching of English listening skills involved a combination of diverse strategies to enhance comprehension and proficiency. Integrating authentic listening materials, such as podcasts, videos, images, quizzes, and dialogues, exposed learners to various accents and real-life language use (Palma & Garzón, 2023). Implementing pre-listening activities, such as predicting content or introducing relevant vocabulary, helped students build a mental framework for understanding the material. During listening exercises, incorporating tasks like note-taking, summarizing, and answering specific questions supported active engagement and comprehension (Bozorgian et al., 2022). Furthermore, providing opportunities for repeated exposure to the same material aided in developing familiarity and reinforcing understanding. These techniques aligned with research emphasizing the importance of authentic materials, pre-listening activities, and interactive tasks for effective English listening instruction.

Vocabulary learning and listening abilities have a practical correlation. Teng's (2016) prior research found a positive and significant association between both aspects of vocabulary knowledge and students' listening comprehension, supporting this argument. Multiple regression analysis revealed that language knowledge is a better predictor of listening comprehension success. This study demonstrates that teaching comprehension and vocabulary concurrently, particularly through the use of technology, is advantageous.

Therefore, Memrise platform could be the tool to help educators to teach and enhance the student's vocabulary and listening skill. This platform has a very specific audience that wants to learn about vocabulary and listening. As a result, the target for this tool is expected to include any instructor who wants to encourage their students to find out their vocabulary statistics, listening skill level, as well as any student who wants to enhance their language ability in a simple and enjoyable way. The platform employs a multifaceted approach, integrating various features that contribute to an immersive and effective learning experience.

1. **Gamified Vocabulary Learning:** Memrise employs gamification principles to make vocabulary acquisition an engaging experience. Users encounter vocabulary in a playful context, making the learning process enjoyable. The gamified elements not only motivate learners to expand their vocabulary but also contribute to the retention of words in memory.
2. **Multimedia-rich Vocabulary Modules:** For vocabulary enhancement, Memrise offers multimedia-rich modules incorporating audio clips of native speakers. This not only aids in pronunciation but also provides learners with exposure to diverse accents and speech patterns. The combination of visual and auditory stimuli contributes significantly to a more profound understanding and retention of vocabulary.
3. **Contextual Listening Exercises:** To bolster listening skills, Memrise integrates contextual listening exercises. Users engage in activities where they must comprehend spoken English in various real-life situations. This immersive approach not only sharpens listening abilities but also

reinforces the connection between vocabulary and its practical application, promoting a holistic language learning experience.

4. **Spaced Repetition Technique:** Memrise employs the spaced repetition technique to optimize vocabulary retention. Learners encounter previously learned words strategically at increasing intervals, reinforcing their memory. This feature ensures that users not only acquire new vocabulary but also solidify their knowledge over time, a crucial aspect for both vocabulary and listening skill development.
5. **Adaptive Learning Paths:** Memrise's adaptive learning algorithms are tailored to individual progress, ensuring that learners receive content appropriate to their proficiency level. This adaptability extends to both vocabulary and listening exercises, offering challenges that align with users' evolving abilities. This personalized approach maximizes the effectiveness of learning, making it suitable for learners at different stages of language proficiency.

## **2.8. Previous Studies**

Contextualizing this study on the topic of ICT in ELT, some research in the field has been done, and the findings have produced some findings that are pertinent to this study. The theoretical framework for this study was developed using the results and theory that supported the earlier investigation.

1. Aminatun and Oktaviani in 2019 conducted a research entitled Using “Memrise” to Boost English for Business Vocabulary Mastery: Students’ Viewpoint. This research involved 18 students from Management

program. This study focused on the use of Memrise application to improve English vocabulary mastery for business and explores the impact of Memrise on students' vocabulary learning and their overall experience with the application outside of the classroom, the students utilised Memrise and offered feedback via surveys and interviews. While most students found Memrise effective and entertaining for learning English for business vocabulary, others encountered difficulties with constant access owing to internet connectivity concerns and a lack of enthusiasm. The program, on the other hand, was proven to have a favourable impact on students' vocabulary mastering by offering repetition for learnt words and a motivating point system. To improve Memrise's efficacy, the research proposed fixing internet access concerns and setting a plan for using Memrise outside of the classroom.

2. Nuralisah and Kareviati (2020) investigated The Effectiveness of Using Memrise Application in Teaching Vocabulary. This research also using Memrise as the media of teaching English in a state Junior High School in Cililin, Bandung. The study was conducted by investigated the usefulness of utilizing the Memrise programme in teaching vocabulary to seventh-grade students, discovering that it resulted in higher vocabulary scores as well as greater interest and desire in studying. The Memrise app is recommended as an alternate way for teaching vocabulary in the study. The participants in the research were 35 of seventh-grade students. Pre- and post-tests, interviews, and

questionnaires were used to collect data, with the post-test findings indicating an increase in average score from 68.3 to 85.1. According to the findings, the Memrise program was helpful in assisting students in memorizing vocabulary and understanding English more readily. Furthermore, the paper discusses many approaches and tactics that have been investigated in various educational situations, such as language learning applications, flash cards, and unique vocabulary acquisition methodologies.

3. Aminatun and Oktaviani (2019) entitled *Memrise: Promoting Students' Autonomous Learning Skill through Language Learning Application* examined the use of the language learning app "Memrise" to improve students' English language skills, particularly for business purposes. The study involved 18 Management students taking the English for Business II subject. Data was collected through questionnaires and interviews, with a combination of quantitative and qualitative analysis. The findings showed that Memrise helped students improve their vocabulary, encouraged motivation, and supported independent learning outside the classroom. Despite some barriers, students found Memrise helpful for learning English vocabulary, especially for business purposes. The app was easy to use and accessible anytime, and the point system motivated them to use it and it facilitated independent learning among students and enhanced their capabilities.

4. Esmaeili and Shahrokhi (2020) studied The Impact of Memrise Application on Iranian EFL Learners' Collocation Learning and Retention. A study conducted in a private institute in Iran by The study sought to determine the effect of the Memrise program on collocation learning and retention among Iranian EFL students. The study used a quasi-experimental approach with 75 intermediate EFL learners. The study focused on the pedagogical implications for various stakeholders and the advantages of using mobile applications into English language teaching techniques. The technique comprised pre-tests and collocation testing, revealing that Memrise had a statistically significant impact on both learning and retention, agreeing with previous studies on the favorable benefit of mobile applications on language acquisition. It did, however, emphasize the limited adoption of mobile applications in Iranian educational settings, indicating the need for structural improvements. Overall, the study sought to address a knowledge gap about the usage of Memrise for collocation learning among Iranian EFL learners, as well as to provide insights into the potential benefits of adopting mobile applications into English language instruction.
5. Alsadoon (2021) in the research entitled Chatting with AI Bot: Vocabulary Learning Assistant for Saudi EFL Learners, stated that the goal of the study at Santiago de Cali University was to build and evaluate the influence of a mobile application on the linguistic and listening abilities of English language students. This app was developed

collaboratively by foreign language professors, a software development professor, and systems engineering students. Using the mobile app, participants were separated into four groups (60 students) and four control groups (53 students). The technique entailed incorporating gamification into the mobile app for the test groups and comparing their results to those of the control groups. The data includes assessing students' language and listening abilities as well as gathering comments on the app's perceived usefulness via a survey. To compare outcomes between test and control groups, statistical variance analysis was used. The results showed that students using the mobile app improved their linguistic and listening abilities significantly, with the survey suggesting a high perceived usefulness and advantages for language acquisition. This study emphasizes the beneficial influence of game-driven mobile apps on language acquisition and suggests additional research with a larger number of participants to overcome scale limitations.

6. Nadya and Aswir (2023) investigated Language Learning Media through Mobile App: The Effects of Busuu on Vocabulary Learning and Listening Skills. Using different platform, the researchers found out the effects of the Busuu mobile app on vocabulary learning and listening skills among 38 students of a state Junior High School in South Tangerang. Employing a quantitative approach with a pre-experimental design, the study utilized SPSS software to calculate the data, revealing that post-test scores for both vocabulary learning and listening skills were

significantly higher than pre-test scores. The findings suggested that the Busuu app had a considerable positive impact on students' proficiency in these areas. The study recommended incorporating the Busuu app into language learning, emphasizing its potential to enhance vocabulary and listening skills. It also highlighted the significance of vocabulary and listening in language acquisition and proposed further research to explore students' perceptions of using Busuu for a more comprehensive understanding of its effects. Overall, the results supported the advantageous influence of the Busuu app on language learning, particularly in the realms of vocabulary acquisition and listening proficiency.

While previous research has investigated various technological interventions in the form of applications or platforms to improve students' vocabulary and listening skills, there is a significant research gap regarding the use of the Memrise platform, which is specifically aimed at improving students' vocabulary and listening skills. Aminatun and Oktaviani (2019) explored the impact of students' vocabulary learning and their overall experience with the application outside the classroom. Nuralisah and Kareviati (2020) investigated the effectiveness of using Memrise in teaching vocabulary to seventh grade students, and discover that it results in higher vocabulary scores as well as greater interest and desire in studying because the platform is helpful in assisting students in memorizing vocabulary and understanding English more readily. Esmaili and Shahrokhi (2020) conducted a study to determine the effect of Memrise on collocation learning and retention

which give result that Memrise provide insight to potential benefit of adopting mobile applications into English language instruction. Aminatun and Oktaviani (2019) also scrutinized Memrise as media of language learning to promote students' autonomous learning skill. It shows that Memrise helped students improved their vocabulary, promoted motivation and supporting independent learning. Other researcher also explored how learning vocabulary using other platform can improve their English skill. Alsadoon (2021) conducted a study about using AI bot to chat as vocabulary learning assistant. It showed that the students using mobile app improve their linguistic and listening abilities significantly. Meanwhile, Nadya and Asir (2023) addressed the effect of Busuu mobile application on vocabulary learning and listening skills and found its potential to enhance vocabulary and listening skills of students. The study also highlighted the significance of vocabulary and listening language acquisition for students. These studies underscore the potential of Memrise and language learning platform as a versatile tool in language learning acquisition while also identifying area for further research, particularly in investigating the integration of Memrise to promote students' vocabulary and listening skill. Therefore, the researcher aims to fill the gap by examining the effectiveness of Memrise on students' vocabulary and listening skill.

## **2.9. Hypothesis Formulation**

The hypothesis formulations of this study are:

1. The impact of Memrise on students' learning achievement in vocabulary:
  - a. Null Hypothesis ( $H_0$ ): There has no impact of Memrise on students' achievement in English vocabulary.

- b. Alternative Hypothesis ( $H_a$ ): There is an impact of Memrise on students' achievement in English vocabulary.
2. The impact of Memrise on students' learning achievement in listening skill:
- a. Null Hypothesis ( $H_0$ ): There has no impact of Memrise on students' achievement in listening skills.
  - b. Alternative Hypothesis ( $H_a$ ): There is an impact of Memrise on students' achievement in listening skill.

