CHAPTER 2
LITERATURE REVIEW

This chapter briefly explains some theories that support the study. The theories are related to the Technology Acceptance Model (TAM), Cake Application, and Self-directed Learning.

A. Theoretical Framework
1. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a widely used framework for understanding how individuals adopt and use technology. TAM is specifically designed to predict and explain user behavior regarding the acceptance and utilization of technological tools. According to TAM, the key factors influencing a person's decision to adopt technology are Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). The model was initially developed to describe how people use computers, focusing on these key concepts.

Table 1 *Technology Acceptance Model (Davis, 1989)*

Indicator	Definition
Perceived Usefulness (PU)	The degree to which an individual believes that utilizing a specific system would improve their effectiveness.
Perceived Ease of Use (PEOU)	The degree to which an individual believes using a particular system would be effort-free.

The Technology Acceptance Model (TAM), initially developed by Davis (1989), remains one of the most widely adopted theoretical frameworks for understanding users' technology acceptance. Rooted in the Theory of Reasoned Action (TRA), TAM proposes that an individual's behavioral intention to use a technology is primarily influenced by two beliefs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). PU refers to the degree to which a user believes that using a system would enhance their performance, while PEOU refers to the extent to which they believe using the system would be free of effort. These

perceptions form the basis of a user's attitude toward the technology, influencing their intention and actual usage behavior (Davis, 1989; Venkatesh & Davis, 2000).

Perceived Usefulness (PU) is crucial in shaping user attitudes and intentions. Numerous studies have found PU to be a consistent and strong predictor of technology acceptance, particularly in educational, healthcare, and commercial settings. For instance, recent research by Ghimire and Edwards (2024) on adopting generative AI tools in classrooms showed that PU significantly correlated with students' intention to use these technologies for academic purposes. Similarly, a study on autonomous vehicle systems in Shanghai identified PU as the most dominant factor influencing public acceptance (Shen, Yu, & Xu, 2024). These findings reaffirm that when users perceive technology as helpful in accomplishing their tasks effectively, they are more likely to adopt and integrate it into their routine practices.

On the other hand, Perceived Ease of Use (PEOU) contributes to technology acceptance by influencing both PU and users' overall attitudes toward the system. If a technology is perceived as easy to use, users are more likely to believe it is also useful, increasing their intention to adopt it (Venkatesh & Bala, 2008). Recent findings in the field of e-learning and mobile applications support this relationship. For example, Al-Suqri (2023) found that PEOU significantly affected faculty members' adoption of e-books in higher education institutions, particularly those with lower technical proficiency. Although PEOU often has a slightly lower direct impact on behavioral intention than PU, its indirect effect through enhancing PU remains critical in the acceptance process.

Over time, the original TAM has been expanded into more comprehensive models such as TAM2, TAM3, and the Unified Theory of Acceptance and Use of Technology (UTAUT), which include additional variables like social influence, facilitating conditions, and self-efficacy (Venkatesh et al., 2003). However, PU and PEOU remain central constructs in all these extensions, signifying their enduring relevance. In the context of educational technology, especially language learning tools, understanding PU and PEOU can help educators design more effective systems that students find both useful and easy to use. This foundational

understanding is particularly valuable in analyzing student responses to newer instructional methods, such as intralingual dubbing in advanced English pronunciation classes, where both the perceived effectiveness and usability of the technology influence learner engagement and outcomes.

Several studies have been conducted regarding the use of TAM in the system and technology. One contemporary study by Puiu and Udriștioiu (2024) explored how TAM could predict students' acceptance of Virtual Reality (VR) in primary and secondary education. Their findings revealed that PU and PEOU significantly influenced students' behavioral intentions to use VR for academic purposes. The study emphasized that when students perceived VR as beneficial for enhancing learning experiences, particularly in science and history education, they were more likely to show a willingness to adopt it. Additionally, ease of use was crucial, as younger learners were more inclined to use VR technologies when they felt the tools were intuitive and did not require excessive technical effort. This study demonstrated the robustness of TAM in evaluating educational innovations in K–12 environments.

Another relevant investigation is the 2024 study published in Discover Education, which examined German university students' acceptance of e-learning platforms during post-pandemic higher education. The researchers extended the TAM framework by incorporating self-regulated learning and affinity for technology interaction as external variables influencing PU and PEOU. The findings showed that students with higher levels of self-regulated learning were more likely to perceive e-learning platforms as applicable, while affinity for digital interaction positively influenced their perceptions of ease of use. Interestingly, this model did not consider traditional predictors such as prior experience with e-learning or self-efficacy. The study highlights the adaptability of TAM and its potential to integrate cognitive and motivational factors to explain digital learning behavior in higher education.

In a third example, Nguyen et al. (2023) applied a modified TAM to examine the use of ChatGPT among university students in Vietnam. The study introduced Effort Expectancy (a construct derived from the Unified Theory of

Acceptance and Use of Technology, or UTAUT) to align with PEOU and Performance Expectancy to represent PU. The researchers found that Effort Expectancy positively influenced Performance Expectancy and behavioral intention, which in turn strongly correlated with actual usage of ChatGPT for academic writing and research tasks. Moreover, the study introduced knowledge-sharing behavior as a moderating factor, revealing that students more open to sharing knowledge were more likely to translate intention into actual use. This research demonstrates how TAM can be adapted to accommodate newer behavioral constructs while maintaining its explanatory power in the context of AI integration in education.

In the present research context, students' perceptions align closely with Perceived Usefulness, as many participants reported that Cake significantly improved their language learning outcomes. For instance, features like interactive quizzes, pronunciation evaluation, and short videos enabled students to better understand spoken English, improve their pronunciation, and feel more confident in classroom participation. These benefits reflect the core idea of PU, students perceive Cake not just as a supplementary tool but as an essential aid that directly contributes to their language skill development. This is consistent with the findings of Zou et al. (2023), who confirmed that when students clearly perceive a learning application to be useful, they are more likely to adopt and continue using it in their academic routine.

Similarly, students' feedback highlighted the app's ease of navigation, straightforward user interface, and accessibility across different content categories, which illustrates strong alignment with Perceived Ease of Use. For example, students were able to access videos, record their voices, and receive feedback with minimal technical barriers. This effortless interaction reduced cognitive load and allowed them to focus more on learning content than on navigating the platform. The comfort of learning at their own pace and location, without classroom anxiety, further contributed to their favorable perception. According to Al-Shihri (2025), when educational technology is perceived as easy to use, it positively affects

learners' engagement and attitudes, increasing both usage frequency and learning motivation.

By linking TAM with self-directed learning theory, it becomes clear that the success of the Cake application in this study is deeply tied to its alignment with students' autonomy, motivation, and goal-setting. Students reported that the app supported their ability to choose learning materials, track progress, and manage time effectively, all of which are crucial components of self-directed learning (Vu & Shah, 2016; Benson & White, as cited in Humaira & Hurriyah, 2018). When technology like Cake is both perceived as useful and easy to use, it naturally empowers students to take more initiative in their learning. This supports the findings of Rafiq et al. (2023), who emphasized that mobile learning tools strengthen learner agency and promote more independent learning behaviors.

In conclusion, the Technology Acceptance Model (TAM) provides a relevant theoretical foundation to understand how students perceive and adopt educational technology. TAM emphasizes two key factors Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), which in the context of language learning applications can help explain why certain tools are more engaging and effective than others. The researchers believe that applying TAM in this study allows for a clearer analysis of how students evaluate the Cake application as a learning medium.

2. Technology in Language Learning

The use of technology in language learning has become increasingly common among teachers and has made learning activities more effective. Technology now plays an important role in the education system, offering a range of benefits that can support teachers in facilitating student learning. To maximize these benefits, it is important to integrate technology into the curriculum to improve the effectiveness and efficiency of teaching and learning. In line with this, Zhu (2019) stated that technology can increase students' self-esteem and positively affect their attitude towards learning. Similarly, Al-Shihri (2025) emphasized that technology-assisted language learning can improve student engagement and academic achievement. Moreover, recent studies emphasize the importance of

integrating digital literacy and instructional technologies to develop 21st-century skills such as critical thinking, creativity, and communication (Puteh et al., 2023). This integration can support differentiated instruction, foster collaborative learning environments, and provide personalized feedback, making the learning process more inclusive and adaptive to diverse learners' needs.

Integrating technology into language learning allows students to explore online learning resources on various platforms. Various apps and digital tools allow students to learn independently through their smartphones, anytime and anywhere. This flexibility supports the development of learner autonomy, a crucial aspect of modern language pedagogy. Technological advances in language education also empower students to take greater control over their learning process. According to Mohammed (2022), technology can significantly change how language is taught and give students wider access to learning materials. In addition, Wegerif (2015) notes that technology affects how individuals perceive and interact, further shaping the learning experience. Supporting this, Ardi et al. (2024) found that mobile-assisted language learning (MALL) tools, such as language-learning apps, positively affect students' motivation and vocabulary acquisition, especially when used consistently in both formal and informal learning contexts. These tools encourage interactive learning and help bridge the gap between classroom instruction and real-world communication needs.

Technology not only enhances access and engagement but also fosters multimodal learning environments where students interact with content through text, audio, video, and speech. This multimodality is particularly effective in supporting language learners with diverse learning styles and preferences. Recent developments in artificial intelligence, such as automated feedback tools and intelligent tutoring systems, also enable real-time correction and pronunciation support, contributing to more efficient learning (Zhang & Yin, 2023). Furthermore, online platforms such as digital storytelling, video dubbing, and podcasting can stimulate students' creativity while reinforcing their linguistic competence. These approaches align with communicative language teaching principles, emphasizing meaningful interaction and learner participation.

Overall, the integration of technology in language learning has transformed traditional learning environments into more flexible and interactive ones. Based on classroom observations and relevant literature, the researcher believes that digital platforms provide students with greater autonomy, real-time feedback, and access to authentic language materials. This shift enhances students' motivation and encourages continuous learning beyond the classroom. In the context of this study, students' positive perceptions of the Cake Application illustrate how such technologies contribute to a more autonomous, personalized learning experience. The asynchronous nature of the Cake app allows learners to engage with English language content at their own pace and convenience, whether at home or on the move, supporting the principles of self-directed learning, where learners take initiative in planning, implementing, and evaluating their learning processes (Vu & Shah, 2016).

3. Cake Application

The Cake app is a mobile and computer-based language learning platform specifically designed to make acquiring English skills more enjoyable, accessible, and effective for learners at various levels. In the current digital age, where educational practices are increasingly supported by technology, integrating mobile learning applications like Cake has transformed traditional classroom methods into more interactive and student-centered experiences. The Cake app enhances teaching and learning by offering an intuitive interface and a wide range of user-friendly features that support independent, flexible, and repetitive learning, key components of self-directed learning. For teachers, it provides a valuable supplemental tool that can enrich lesson plans and offer students meaningful practice outside classroom hours. For students, the app is designed with a simple, straightforward, and sequential structure that is easy to navigate, making it especially appealing to those who may feel overwhelmed by more complex learning platforms.
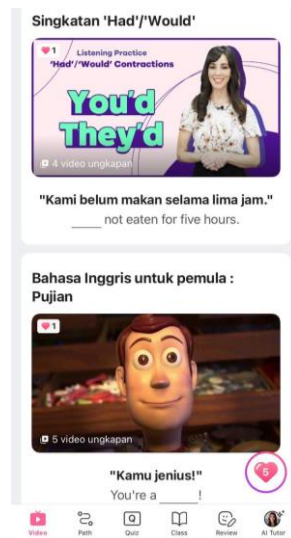
Figure 1. Cake Application Homepage

Figure 2. Cake application Feature

Figure 1 shows the homepage of the Cake application, where several menu options are displayed, such as Video, Path, Quiz, Class, Review, and AI Tutor. In the figure, the app is currently on the "Video" menu, where users can choose which short video they want to study. Figure 2 displays the selected short video, which includes a text transcript along with its translation that automatically appears as the video plays. In this feature, users can also repeat words by activating the drill option located in the top right corner. This feature hides the transcript text and allows users to reveal it manually. There is also a repeat sentence feature on the left side, and users can adjust the video playback speed according to their preference.

The Cake app offers a variety of innovative features designed to support English language learning, particularly in enhancing learners' speaking and listening skills. One of the app's standout characteristics, as highlighted by Anggraeni et al. (2023), is its presentation of short, engaging video clips that help students stay focused and avoid confusion when interpreting spoken dialogue. These bite-sized videos present authentic language in context, making it easier for users to absorb vocabulary and understand pronunciation. Among its key features, the app includes a specialized speaking course with interactive quizzes allowing users to record their voices. The system then detects pronunciation patterns and provides evaluative feedback, making the process of language practice more personalized and goal-oriented.

Moreover, this interactive feedback mechanism fosters learner motivation by enabling visible progress and encouraging continued app use. Anggraeni et al. (2023) note that this feature makes learning more engaging and provides meaningful improvements in learners' spoken English, reinforcing confidence and fluency. In addition, the Cake app taps into principles of self-directed learning and intrinsic motivation by gamifying the learning process through voice-based quizzes, repetition, and instant correction. These features appeal especially to digital-native students who benefit from mobile-assisted language learning platforms that are interactive, user-friendly, and focused on skill reinforcement through practice.

Accessibility and ease of use are also central to the app's appeal. Users can simply download the Cake app via the Google Play Store or Apple App Store to begin learning. Registration is straightforward and can be completed by logging in with a Google account linked to the user's smartphone. After logging in, users are presented with an intuitive main interface with several navigation menus: Home, Search, Speak, Library, and Profile. Each menu is organized for user convenience, allowing learners to choose and manage content according to their preferences. This ease of navigation empowers users to control their learning path, an important aspect of autonomous and self-directed learning environments.

Furthermore, the Cake app offers a rich variety of content organized into several categories accessible through the Search menu. Learners can explore topics

ranging from beginner to advanced listening exercises, travel, comedy, popular series, and American dramas and TV shows. Users are exposed to authentic conversational English with subtitles provided below each clip by selecting a video. They can listen to and repeat each dialogue segment, aiding in pronunciation, rhythm, and intonation practice. Including a speaking quiz at the end of each video allows learners to record their voices and receive immediate feedback, helping them identify strengths and areas for improvement. These features combine to create a dynamic and responsive learning environment that not only reinforces pronunciation skills but also fosters learner independence and confidence in speaking English.

In summary, the researcher perceives the Cake application as an innovative and accessible platform for English language learners, particularly for improving speaking and listening skills. Its short video format, interactive subtitles, and daily practice challenges are aligned with modern learning habits. Through this study, the writer aims to explore how students respond to the app's features and whether its design supports both ease of use and language learning effectiveness.

4. Self-directed learning

Self-directed learning (SDL) is a learner-centered approach where individuals take the initiative in planning, executing, and evaluating their learning activities. It allows students to personalize their learning experience according to their needs, pace, and interests. Smith (1982), as cited by Gharti (2019), defines self-directed learning as "an individual's ability to control his/her study plan or schedule and other learning-related factors." This definition highlights the core principle of SDL—learner autonomy. The emphasis lies in empowering students to be proactive decision-makers in their educational journey, thereby fostering a sense of ownership and responsibility. Despite its individualized nature, SDL does not eliminate the role of educators. Teachers continue to play a vital role, not as traditional instructors, but as facilitators and guides who provide resources, feedback, and scaffolding to support the learner's growth (Fidyati, 2017).

While SDL promotes learner independence, motivation is identified as a key determinant of its success. Highly motivated students are more likely to engage in

learning voluntarily, rather than merely responding to external demands. Wahyudi et al. (2021) emphasize that strong intrinsic motivation is essential for fostering autonomy, enabling students to take full responsibility for their progress. This is supported by Spratt et al., as cited in Fidyati (2017), who explain that students with internal motivation are more inclined to participate in learning activities of their own volition. The shift from teacher-directed to self-initiated learning requires students to be not only active but also emotionally invested in their goals. Thus, motivation acts as both a foundation and a driver for effective self-directed learning.

According to Redjeki and Muhajir (2022), self-assessment encourages learners to become more metacognitively aware, which allows them to identify gaps in their understanding and seek solutions independently. This reflective process nurtures a growth mindset and reinforces the importance of persistence, adaptability, and critical thinking in achieving long-term academic success.

Beyond academic benefits, SDL also positively influences students' personal and social development. Dewi et al. (2019) found that self-directed learning not only enhances learners' ability to plan and monitor their learning strategies but also contributes to improved social competence through the development of self-confidence. When learners are entrusted with the responsibility for their own learning, they become more self-assured and capable of functioning effectively in both individual and collaborative learning environments. This suggests that SDL is not limited to academic outcomes, but also promotes holistic development, making learners more prepared for real-world challenges. As such, fostering SDL in educational contexts is vital for cultivating lifelong learners who are independent, motivated, and socially competent.

Self-directed learning (SDL) plays a critical role in shaping effective English language acquisition. This learning approach empowers students to become autonomous learners who manage their educational journey with minimal external direction. According to Vu and Shah (2016), the essential skills for successful language learning in an SDL context include planning, implementing, monitoring, and evaluating one's learning activities. These four dimensions encourage students to adopt a structured approach that promotes consistent and goal-oriented

engagement with the English language. By applying these skills, learners become active participants who are responsible not only for acquiring knowledge but also for managing their progress.

Moreover, SDL is influenced by a combination of internal and external factors that determine its effectiveness. Vu and Shah (2016) identify internal factors such as metacognitive knowledge, the awareness and understanding of one's own learning process and motivational beliefs, which drive students to persist and succeed. These internal capacities enable learners to think critically about their performance and adjust their strategies accordingly. On the other hand, external factors, including teacher instruction, still play a supporting role. Even in self-directed environments, teacher guidance remains important in setting clear expectations, providing feedback, and offering learning resources that can scaffold student progress, especially for learners who are transitioning into more autonomous roles.

The structural flexibility of SDL allows learners to tailor their English language learning process based on individual needs and interests. In this regard, Benson and White (as cited in Humaira & Hurriyah, 2018) propose a detailed framework that includes components such as needs analysis, goal setting, material selection, learner strategies, self-assessment, and self-reflection. Each of these components empowers learners to take full control of their learning process from determining what they want to learn, selecting appropriate materials, applying relevant learning strategies, to continuously evaluating their progress. This framework not only supports linguistic development but also cultivates learner autonomy and critical thinking. It makes English learning more accessible and effective, particularly when students are given the flexibility to study at their own pace and in their preferred learning environments.

Finally, motivation remains one of the most significant determinants of success in SDL, particularly in the context of language learning. Anggraeni et al. (2023) argue that the effectiveness of learning activities is closely linked to students' motivation levels. When learners are internally motivated, they are more likely to take initiative, stay engaged, and persist through challenges. Motivated

17

learners are also better at identifying their learning needs and committing to personal goals. As such, integrating SDL into English language instruction not only supports the development of practical language skills but also fosters a sense of ownership, which is essential for long-term academic success and language proficiency.

To be concluded, self-directed learning plays a critical role in language acquisition, especially in technology-based environments. The ability to set goals, choose materials, and evaluate one's progress is essential for learners who use mobile applications outside of formal settings. The researcher believes that understanding students' level of self-direction can provide deeper insight into how and why they use tools like the Cake application effectively.

B. Study of the Relevant Research

According to relevant research, the learning method employed by the Cake application is highly relevant in today's educational context (Redjeki & Muhajir, 2022). The application offers features such as short videos and films from various categories, which help students practice reading, listening, and direct pronunciation. Yanthi (2020) found that using the Cake application creates a more enjoyable learning atmosphere, motivates students, and boosts their confidence in speaking skills. As a researcher, this positive impact encouraged me to investigate whether the Cake application can support EFL students in implementing self-directed learning in English.

First, Redjeki and Muhajir (2022) conducted a study entitled "Supporting Students' Self-Directed Learning in EFL Speaking Classroom by Using Cake Application." In this study, participants in a speaking class were instructed to use the Cake application for one week to support their self-directed learning. The aim was to determine whether the application could improve three key components in speaking learning: vocabulary, pronunciation, and grammar. The study's results indicated that the Cake application effectively supports self-directed learning in the EFL speaking classroom. Participants reported that the application is free, interesting, and easy to use. Furthermore, they stated that the app helped improve

their vocabulary mastery, word pronunciation accuracy, and grammatical writing skills.

Second, a study conducted by Chotimah and Pratiwi (2022) and entitled "The Use of Cake Application on Students' Speaking Skill in English for Specific Purposes (ESP)," identified that college students in ESP classes struggled with English speaking skills, particularly pronunciation, while the lecturer used unengaging teaching media. To address this, the researchers introduced the Cake application, believing students could use it independently without special instructions. The study concluded that the Cake application improves students' English speaking skills and enjoyment. Additionally, the data showed that the application supports students in practicing and expanding their vocabulary while ensuring correct pronunciation.

Third, Abang et al. (2022), in their study titled "The Use of Cake Application to Improve Students' Reading Comprehension at SMA Negeri 9 North Halmahera," reported that students' English reading abilities were initially very low, as shown in the pre-test. The researchers implemented a six-session intervention using the Cake application, focusing on reading texts through the app. The post-test results demonstrated significant improvements in students' reading skills. This study affirmed that teaching and learning through the Cake application is relevant and practical, aligning well with its intended usability.

Fourth, Ridhallah, Yoestara & Faudi (2024) conducted a qualitative study with 14 intermediate-level English Education students at Serambi Mekkah University, analyzing their perceptions of Cake's role in speaking skill enhancement. The results were compelling: 93.7% of respondents felt that Cake significantly improved their speaking abilities, enhancing fluency and confidence. It aligns closely with this research focus, showing that Cake supports self-directed speaking practice, boosts student confidence, and fosters learner autonomy.

Last, Juliana (2024) surveyed 20 English Department students in West Aceh to investigate Cake's contribution to listening comprehension. The study confirmed that Cake improved their understanding of spoken English across various accents and contexts. Students particularly appreciated its user-friendly interface and

interactive features, though a few mentioned potential boredom over repetitive content. It supports this investigation of Cake's content variety, accessibility, and encourages consideration of how to maintain long-term engagement in self-directed learning scenarios.