CHAPTER 2
LITERATURE REVIEW

This chapter begins with an overview of the learning theories relevant to the study, including constructivism, connectivism, social learning theory, and immersive learning. It then discusses the general principles of teaching English speaking skills and provides an overview of teaching English for Specific Purposes (ESP). Following this, the chapter explains the concept of Augmented Reality (AR) and its various classifications. Then the application of AR in language learning and teaching was reviewed and discussed, as was how it was implemented in some innovative educational environments around the world. This chapter also reviewed the designing of AR-based tasks and how they affected students' performance and attitude in the language learning process. Additionally, technology concepts and frameworks such as TAM, Mixed-Reality and Extended-Reality were discussed to support the study. Simultaneously, reviews of related research about applying mobile AR technology in language teaching and learning around the world and in Vietnam were summarized and synthesized to find a possible theoretical framework for the present study.

2.1 Learning Theories

2.1.1 Constructivism

Constructivism is a learning theory that posits learners actively construct their own understanding and knowledge of the world through experiences and reflection. The idea of constructivism is not new. It has philosophical roots and has been used in anthropology, cognitive psychology, sociology, and education. According to this theory of learning (Gray, 1997), a teacher cannot simply deliver information from the front of the classroom to the students' desks. Learners are the constructors and creators of meaning and knowledge; learners construct knowledge and skills through active participation in the development and learning process (Bruner, 1990; Duffy & Jonassen, 1992; Gray, 1997). Additionally, Serdyukov and Ryan (2008) discuss how the interaction between existing information and new knowledge could help students build their own knowledge. Learning is an ongoing process involving curiosity, collaboration, and critical thinking. The learner should be the focus of attention in a constructivist classroom because the teacher's job is to assist learning.

Constructivism holds that student errors should be seen positively and as a

chance to learn more about how they blend their prior knowledge and experience to create new meanings. To encourage ingenuity, originality, and critical thinking, teachers should create environments and engage with students. For instance, in a constructivist English classroom, instead of completing isolated grammar exercises, students might work in groups to write and perform a short play based on a story they've read. As they collaborate, they negotiate meaning, use language authentically, and reflect on grammar and vocabulary in context-constructing knowledge through interaction and creative use of language. Additionally, the outcome of learning depends not just on the environment but also on the learner's mental and motivational state. The viewpoints of cognitive constructivism and social constructivism are both essential to understanding how knowledge is created. According to Piaget's theory, cognitive constructivism refers to the process of creating meaningful representations based on prior experiences and modifying the preexisting mental models to take new experiences into account (Piaget, 1977). In cognitive constructivism, according to Fosnot and Perry (1996), "students actively construct their ways of knowing as they strive to be effective by restoring coherence to the worlds of their personal experience" (p. 34). As a result, under Piaget's theory, students actively think, investigate, interpret, ask questions, and build knowledge (Lloyd, 1995). In a social constructivist approach, the emphasis is on the social processes that make it meaningless to examine the individual and social components separately. This perspective is centered on how individuals learn (Fosnot, 1996). Language and action are mediatory instruments for learning, according to Vygotsky. It places a strong emphasis on the dynamic interplay between teachers, students, and tasks and sees learning as resulting from social interaction. Additionally, the environment in which language acquisition takes place is crucial to its success. As a result, four key factors might affect the learning process: teachers, students, tasks, and environments. Students can interact with teachers as well as other students or peers who base their learning on the MKO (More Knowledgeable Other) or the ZDP (Zone of Proximal Development). Additionally, MKO may be interpreted as both actual living, breathing individuals and any form of knowledge created by anybody, from the more conventional instructors and open educational materials to all types of digital information (Pea-López 2012). Additionally, MKO is referred to as a learning object or social software that facilitates learning at greater levels of knowledge about the subject matter than the learner already possesses (Attwell, 2010). "Anyone who has a better understanding or higher ability level than the learner" is the MKO. MKOs are "traditionally thought of as a teacher, an older adult, or a peer" (Dahms et al., 2007). In the MKO, the importance of help in the

learning environment is highlighted. Therefore, learning activities should be such that a learner can complete them with the help of peers or teachers who are more experienced but cannot do them on their own.

Honebein (1996) and Jonassen (1999, cited in Kazi, 2005) have identified several pedagogical goals and design principles for constructivist learning environments. Honebein's review focused on seven pedagogical goals, based on the works of Cunningham, Duffy, and Knuth (1993) and Knuth and Cunningham (1993):

a. Providing experience with the knowledge construction process.
b. Offering experience in and appreciation for multiple perspectives.
c. Embedding learning in realistic and relevant contexts.
d. Encouraging ownership and voice in the learning process.
e. Embedding learning in social experiences
f. Encouraging the use of multiple modes of representation.
g. Encouraging self-awareness in the knowledge construction process.

On the other hand, Jonassen presented a set of design principles for constructing learning environments from a constructivist perspective:

a. Employing the relevant learning context in real-world environments.
b. Solving real-world problems with realistic approaches.
c. Employing the strategies of the instructor as a coach and analyzer to solve problems.
d. Emphasizing the interrelationship of concepts to provide various perspectives or representations of content.
e. Negotiating instructional goals and objectives rather than imposing them.
f. Using evaluation as a tool for students to analyze their own progress.
g. Assisting students in interpreting various perspectives of the world using provided tools and environments.
h. Giving students the rights to control and mediate their own learning.

These pedagogical goals and design principles form the foundation for creating effective constructivist learning environments.

Social constructivism and similar theories place a strong emphasis on how individuals learn as a result of interacting with others in a social setting. Lev Vygotsky, a Russian psychologist, is largely credited with developing these beliefs. Vygotsky (1978) assumed that language is a tool used for social interaction that is external to the student; rather than passively receiving information, the learner actively produces knowledge through these exchanges. Knowledge is initially created in a social

environment through collaboration with others, and then it is acquired by individuals (Von Glasersfeld, 1990). Learning occurs in relevant environments in negotiation and collaboration with others through cooperative elaboration (Bruner, 1999). Here it is proposed that modern technology more effectively than ever before facilitates these cooperative learning environments. Social applications offer a flexible setting for individualized learning and improved communication between teachers and students, in contrast to traditional educational models that concentrated on one-way passive transfers of information from educators to students in the form of lectures and textbooks. Building on this idea, extended discussions and collaborative activities that are not bound by time or place further enhance learners' ability to construct knowledge socially. Computer-supported collaborative learning, which is based on students sharing in the construction of knowledge using technology as the primary means of communication, is a new area of research that has been influenced by social constructivist theories and the growing influence of technology in education. Researchers in this field explore how group interaction facilitates knowledge building, and it naturally draws on constructivism, social learning theory, cooperative learning theory, and, more recently, collaboration theory (Hmelo-Silver, 2006). Researchers from a variety of fields are more interested in studying social software and its effects on learning as a result of social media's quick development.

Reviewing constructivism's key aims and guiding principles in the context of education, it can be said that it stresses learning rather than teaching and promotes learner autonomy and personal engagement in the learning process. As one of the most fundamental principles of constructivist language teaching and learning, learner-centeredness is being actively applied by a large number of teachers, researchers, scholars, educators, and writers in the creation and implementation of innovative learning environments. (Wang, 2011). This research gave students several comprehension tasks that they could work on with their group members to collaboratively create and produce AR-based learning materials in order to enhance their communication skills in general. Constructivism emphasizes learner-centered approaches, active participation, and the construction of knowledge through social interaction and experience. AR-based tasks align well with these principles by providing immersive and interactive learning experiences, fostering engagement, and promoting collaboration. AR technology offers learners opportunities to explore and manipulate virtual objects in real-world contexts, enhancing their understanding and application of language skills. Furthermore, the integration of AR in language learning environments can facilitate authentic and meaningful experiences, enabling learners to develop

communicative competence and cultural understanding. By combining constructivism and AR-based task design, educators can create dynamic and effective language learning experiences that empower learners and promote their language acquisition.

This current study integrated the principles of constructivism by designing AR-based learning activities that emphasize active participation, collaboration, and contextualized learning. The constructivist approach guided the creation of tasks where students are encouraged to engage deeply with the material through exploration and interaction. These tasks were designed to simulate real-world scenarios relevant to the tourism and hospitality industry, providing learners with immersive experiences that foster the construction of knowledge and skills. The AR applications were utilized to create realistic environments where students can practice their speaking skills in authentic contexts. For instance, students might use AR to role-play interactions with virtual tourists, navigate digital recreations of tourist attractions, or simulate customer service situations. These activities not only engaged students but also required them to apply their language skills in practical, meaningful ways, thereby enhancing their communicative competence. To promote collaboration, the study incorporated group projects where students work together to solve problems and complete tasks using AR technology. This collaborative approach aligns with the social constructivist emphasis on learning through social interaction. Students were encouraged to share their perspectives, negotiate meanings, and co-construct knowledge, thus benefiting from the diverse insights and experiences of their peers.

Furthermore, the study integrated reflective practices, allowing students to evaluate their own progress and the effectiveness of their learning strategies. Reflective activities, such as group discussions and individual journals, helped students to internalize their experiences and connect new knowledge with their existing cognitive frameworks. By integrating constructivist principles with AR technology, this study aims to create a learner-centered environment that supports active engagement, collaboration, and the practical application of language skills. This approach not only aligns with the theoretical underpinnings of constructivism but also leverages the unique capabilities of AR to enhance the learning experience in a way that is both immersive and contextually relevant. Ultimately, the integration of AR within a constructivist framework holds significant promise for transforming language education into an interactive, learner-driven, and socially enriched experience.

2.1.2 Cognitive Load Theory

Cognitive Load Theory (CLT) emerged from the recognition of the limitations of working memory (WM) capacity and its implications for learning processes.

Developed by Sweller (1988) and expanded by Sweller & Chandler (1991) and Sweller et al. (1998), CLT aims to inform educational practices through empirically supported instructional interventions that account for WM demands during teaching and learning. Building on Miller's concept of a limited WM capacity of '7 plus or minus 2' pieces of information, CLT redefines these units as 'elements' that interact to create schematic links supporting WM processing (Halford, Wilson, & Phillips, 1998; Sweller, Ayres, & Kalyuga, 2011). For instance, solving a simple math equation involves juggling several elements in WM, such as numbers, rules, and symbols. As the number of interacting elements increases, cognitive load also rises until WM resources are maxed out, leading to cognitive overload if capacity is exceeded. This overload results in the loss of elements within WM, hindering the processing of information and negatively impacting learning.

Fundamental to CLT is the notion that WM capacity is limited and cognitive overload results in the loss of information available for processing, leading to several empirically supported instructional principles. One such principle is the goal-free effect, which posits that problem-solving without specific goals imposes a lower cognitive load compared to solving problems with a goal in mind (Sweller, 1988). Another principle, the split attention effect, occurs when learners split their attention between spatially separated text and diagrams, imposing high demands on WM and negatively affecting learning (Chandler & Sweller, 1992; Sweller & Chandler, 1991). Research indicates that integrating text into diagrams or replacing visual text with spoken explanations (modality effect) can reduce cognitive load and facilitate learning (Mousavi, Low & Sweller, 1995; Tindall-Ford, Chandler, & Sweller, 1997). While some CLT effects align with Baddeley and Hitch's Multicomponent Model of WM, others, like the redundancy effect, suggest a closer alignment with alternative conceptions of WM, such as Cowan's single WM system. The redundancy effect shows that duplicated information, whether in the same or different modalities, can negatively impact learning (Chandler & Sweller, 1991; Kalyuga, Chandler, & Sweller, 1999). For example, Kalyuga et al. (1999) found that learners performed better with auditory statements corresponding to visual diagrams than with combined written and auditory statements, challenging Baddeley and Hitch's model and supporting Cowan's theory that duplicated information taxes WM resources.

It becomes evident that CLT provides a crucial framework for understanding how AR can be effectively utilized to enhance learning outcomes. The thesis underscores the potential of AR to create immersive and interactive learning environments, which aligns with CLT's emphasis on managing cognitive load to

optimize WM resources. By reducing extraneous cognitive load through well-designed AR applications, learners can focus more on essential elements, such as language constructs and contextual usage, thereby enhancing their speaking skills. Moreover, AR's ability to spatially integrate visual and auditory information directly addresses CLT's modality effect, which suggests that combining visual and auditory learning materials can make more efficient use of WM resources. This integration can lead to a more profound understanding and retention of language skills critical for Tourism and Hospitality, supporting the thesis's goal of leveraging innovative technologies to meet specific educational needs. Therefore, applying CLT principles within AR-enhanced learning environments not only validates the educational strategies proposed in the thesis but also offers a robust theoretical foundation for developing more effective instructional designs.

In the current study, the principles of Cognitive Load Theory (CLT) were used to optimize the design and implementation of AR-based learning activities. CLT emphasizes the limitations of working memory (WM) and the importance of managing cognitive load to enhance learning outcomes. By applying CLT principles, the researcher created instructional interventions that minimize extraneous cognitive load and maximize the efficiency of WM resources, thereby facilitating the learning process. To achieve this, the study incorporated AR applications that provide immersive and interactive learning environments, which are particularly well-suited to manage cognitive load. For example, AR can spatially integrate visual and auditory information, addressing the modality effect identified in CLT research. By presenting information through both visual and auditory channels, AR can reduce the cognitive burden on WM, allowing students to focus on essential elements such as language constructs and contextual usage. This multimodal approach is expected to enhance the understanding and retention of language skills critical for the tourism and hospitality industry. Furthermore, the design of AR-based tasks adhered to CLT principles such as the goal-free effect and the split attention effect. Tasks were structured to avoid specific goals that can impose high cognitive demands, instead encouraging exploration and interaction within realistic scenarios. This approach reduced cognitive load and promotes deeper engagement with the learning material. Additionally, by integrating text directly into diagrams or using spoken explanations instead of visual text, the study mitigated the split attention effect, ensuring that students' cognitive resources are not overtaxed by having to process spatially separated information. The redundancy effect was also carefully considered in the design of AR learning activities. To avoid cognitive overload, the study ensured that information is not duplicated across different

modalities unless it serves a clear instructional purpose. For example, learners may engage in a simulated AR hotel check-in scenario, where audio-visual prompts guide them step-by-step without overloading them with simultaneous written and spoken instructions, thereby minimizing the redundancy effect. By integrating these CLT principles, the study aimed to create a learning environment that supports the processing of complex information without overwhelming students' cognitive capacities. The use of AR technology enabled the creation of realistic and contextually rich scenarios where students can practice and develop their speaking skills in a manner that aligns with their future professional needs. This approach not only validated the educational strategies proposed in the thesis but also provides a robust theoretical foundation for developing more effective instructional designs. Overall, the application of CLT principles within AR-enhanced learning environments contributed to a deeper understanding of how innovative technologies can be leveraged to meet specific educational needs. By optimizing cognitive load management, the study seeked to improve the efficacy of language instruction and provide practical insights for educators seeking to incorporate AR technology into their teaching practices. This integration of CLT and AR offered a promising pathway to enhance language learning outcomes and better prepare students for careers in the tourism and hospitality industry. Finally, by leveraging AR in line with CLT principles, this study offers a practical, evidence-based framework to improve language acquisition while preventing cognitive overload, making instruction more efficient, engaging, and professionally relevant.

2.1.3 Connectivism

Today's students, according to Prensky (2005), are individuals, who are unwilling to learn in settings that do not mirror their real-world experiences, and they cannot learn in such environments. Students bring their materials to class with them, such as mobile devices, laptops, ... which are all common today. Thanks to the constant flow of information provided by these gadgets, students stay in touch with the changing environments; they are driven and equipped for it. Since there are no longer any educators who are considering offering instructions via blackboard and chalk to reach these students. Outside of the institution, students' lives are abundant with media, communication, and innovative possibilities (Darrow, 2009). The dynamics of power fluctuate in online learning environments. Self-directed consumption demonstrates an attitude of adaptability, independence, and a control mechanism that encourages deliberate "learning activities" and takes part in collective endeavors in participatory settings.

As a result, the strength of connectivism comprises of technology that normalizes behaviors in flexible learning environments (Abrams, 2013). Connectivism is a philosophy of learning that offers a view on the dynamics of networks, environments, and climates that encourage continuous education. This perspective asserts that learning is primarily a network-based process in which students view external sources holistically (Marhan, 2006). Generally, the requirement for the class should depend on increasing student learning from the conventional instruction led by the teacher. Though students benefit from introspection and personal investigation, the lesson has a tendency to use a constructivist approach. When interactions with teachers and other students are key to learning, the course leans toward other students and networks connectivism perception. This trio of paradigms should not be regarded as being entirely independent. In reality, they are able to live together and exist. This produced a learner profile that can access a surplus of information on his own, and every attempt to connect with sources online (creating connections) has the ability to impart knowledge to the learner.

The most popular learning theories in the development of learning environments are behaviorism, cognitivism, and constructivism. However, these theories were developed at a time when technology had not yet significantly altered learning (at least not to the extent that it has today). Technology has altered how we learn, communicate, and live during the past 20 years. The underlying conditions of the contemporary social environment should be reflected in learning demands and theories describing learning processes and principles (Khatibi & Fouladchang, 2015). The connectivism theory is predicated on the idea that decisions are made on continually shifting bases (Yi, Lei, & Jian, 2014). As a result, it becomes crucial to be able to decide what is significant. The capacity to reorient information, reconstruct learning, and recognize when new information would affect previous information also comes to the fore (Loureiro & Bettencourt, 2010)

Learning is said to be enhanced by the availability of online Web 2.0 content and resources. Its ability to make it simple for students to track their own progress is one of its most significant benefits. The use of Web 2.0 technology has also considerably enhanced peer input and collaboration. These components are believed to help learners participate more actively and regulate their behavior, which in turn boosts motivation and, eventually, performance. Social media, especially cloud-based social media sites like Facebook and Google+, are intimately related to the adoption of Web 2.0 in the classroom. In order to improve student achievement, researchers and instructors have developed online application communities utilizing Web 2.0

technology. By classifying the social environment as one of the fundamental components of learning, Doolan emphasizes the significance of social context in learning. Students' engagement with one another, with the teacher, and with learning resources is encouraged by including a social component into learning, active learning, and hence learner participation. As a result, learning takes place within social interactions, cultural context, and debates that help create meaning (Conradie, 2014). The impact of learning in the digital era is increased by the significance of social communication. The effects of being a digital citizen are significant in studying matters in the digital age. Rethinking collaborative learning and experience-based learning has been made possible by the digital age and computer-based communication. According to Aksal, Gazi, and Bahçelerli (2013), the usage of social networks in this context falls under the purview of connective learning theory since it combines a number of elements, including awareness, asking, and critical looking, to form groups for the advancement of conversation.

Corporate e-learning management can use connectivism as a learning philosophy. Connectivism theory's core ideas include networks, numerous data sources, knowledge sharing, making important decisions, and virtual learning communities. Applying e-learning software fosters critical thinking, problem solving, and activities that support and guide the use of a lot of knowledge within the context of connectivism (Ghofrani & Hollister, 2011).

A more fitting theory for the technological age is connectivism, or distributed learning, which allows for action to be performed utilizing knowledge from outside sources before learning ever takes place (Mattar, 2010). The most recent pedagogy to emerge in online learning is connectivism. In the 2000s, it gained popularity over time (Bell, 2010). Canadian scholars Stephen Downes (2007) and George Siemens (Siemens, 2005a, 2005b, 2007) have authored articles outlining this strategy and defining learning as the creation of networks between knowledge, relationships, and resources and the application of those networks to actual issues. Connectivism is built on accessibility to networked technology from everywhere and originated in the information era surrounded by networks (Castells, 1996). With this method, learning is concentrated on creating flexible connections that may be used to solve both current and future challenges. According to the connectivist viewpoint, knowledge is limitless, and the learner's job is to be able to access and use information as needed, rather than to memorize or comprehend everything. According to Siemens (2005), "learning can also occur in non-human beings", a significant portion of cognitive functions and problem-solving should be left to machines.

According to Siemens (2004), the fundamental principles of connectivism place a premium on the ability to acquire new knowledge over the retention of existing information. This perspective is underpinned by the following key propositions: (i) knowledge and learning emanate from a diverse array of sources and concepts; (ii) the act of learning entails the establishment of associations between specific neural pathways and reservoirs of information; (iii) learning processes can extend beyond human cognition and extend into non-human devices; (iv) the act of forming and sustaining connections serves as a fundamental prerequisite for perpetual learning; (v) the ability to discern interconnections among various fields, concepts, and ideas constitutes an indispensable skill; and (vi) the reliance on current and accurate information remains a central principle within the connectivist framework. Selecting what to learn and gaining an understanding of the information are components of the learning process.

A network is a collection of circuits joined together by relationships in connectivism. Circuits that are interconnected in one or more ways make up networks. Everything that the transferor can reach on his own is what he intends to transfer. The three circuit types that connectivism describes are neurological, conceptual, and extrinsic. Concepts like similarity and positive relationships are included in the network at the conceptual level, and they are linked together through conceptual connections, ideas, and thoughts. According to AlDahdouh, Osorio, and Caires (2015), the exterior level of the network consists of individuals connected via the Internet, intranet, or direct contact with other individuals, books, websites, programs, or databases. This idea holds that the state in which knowledge is activated by participation and connection to a learning community is the beginning point of learning.

Learning communities are characterized as groups with shared interests that promote communication, collaboration, sharing, and thinking (Siemens 2005). Participation leads to conversations between newcomers and more experienced community members. In the web 2.0 environment, communication increasingly involves pictures like video and multimedia in addition to words. With the use of technological advancements like Web 2.0 and 3.0, students can establish their own customized learning environments, allowing them to produce as well as consume learning resources (Gerard & Goldie, 2016). According to Wikipedia, the idea of a personal learning environment first surfaced in the 1970s, therefore, it is not exactly a new one. With the introduction of Web 2.0 technology, also known as social networking, which enables users to manage their online profiles, it has, nevertheless, been reinvented and consolidated. In light of this, personal learning environments

combine interactivity and material. In addition to providing contacts and services to people, internet tools and social media memberships also produce information and material through communication channels and cloud resources (Gillet, 2013). The central tenet of connectivism is that students link to a learning community, share knowledge with it, and learn from it. A group of people that regularly communicate and study alongside one another due to their shared interests is known as a learning community. The neighborhood is thought of as one of the nodes in a larger network. The growth of independent, diversified, and creative knowledge is supported by various but interconnected networks. Since information is in a constant state of change, it is essential to continually evaluate its accuracy and dependability using fresh data. The process of producing information in the internet environment has an interdisciplinary component (Boitshwarelo, 2011).

Because the concepts of preexisting ideologies have become outmoded as a result of technological advancements, particularly in the manner that knowledge can now be shared quickly and widely via the Internet, connectivism has evolved. These theories do not account for learning that occurs independently of humans (such as learning that is technologically driven). According to Siemens, the facts that makeup information are continually being updated and rewritten as a result of the speed at which the world is becoming more digital. The major goal of the theory is not to acquire or grow knowledge, but rather to locate it in a system or organization when it is needed, to assess if it is still true or appropriate, and to identify the connections in meta-information (Brill, 2008). Due to its emphasis on considering information in a networked society, connectivism has been developed as an approach to information literacy and is considered a more appropriate theory of learning than more conventional theories like constructivism (Brooks, 2015). The notion of connectivism is built on network autonomy and diversity and presupposes that the community learns through the interaction of various viewpoints. The term "connectivism" can be defined as a type of knowledge and pedagogy in which learning is based on the capacity to create and navigate via networks of connections. Participants have a distinctive perspective that they can offer to the discussion when you let them choose what they read on their own (Downes, 2008). Connectivism is seen as a reflection of how society is constantly changing. Societies are becoming increasingly complicated, socially interconnected, globalized, and supplanted by ongoing technological advancements. It connects to a network and combines complicated thoughts in a harmonious way to produce specific sets of information. It connects to a network and harmoniously combines complicated thoughts to produce specific sets of information.

The multiplicity of concepts is the cause of the various ways to know. When evaluated from the perspective of the existing reality, there is no individual control; rather, there is a collaboration of ideas that are already held. The fundamental ability is the ability to recognize the links among knowledge sources and to keep these connections up in a way that promotes continual learning. Knowledge can constantly change and be replaced outside of the learner, for instance, in a database or other specialized information sources. The learner's exposure to this outside knowledge is more crucial than their existing level of understanding. The individual is the main focus of connectivism. Personal knowledge is part of a system that is made up of networks and involves an organization. By entering and leaving the system, the individual continues the process of acquiring knowledge repeatedly (Duke, Harper, & Johnston, 2013). According to the connectivist theory, learning happens when students connect concepts from their unique learning networks, which are made up of many sources of knowledge and technology. When a learner recognizes the links between the concepts, ideas, and viewpoints he has discovered through Internet technologies like electronic databases, internet search engines, and online information sources, knowledge is said to have been gained. As a result, networked information technologies are considered a crucial component of the learning process by connectivism (Dunaway, 2011) & Foroughi (2015) illustrates how Web 3.0 tools, which are now used at almost all educational levels, are definitely connected to connectivist ideas.

Some have critiqued connectivism theory for having ambiguous elements as a learning strategy because it is still in its early stages of development. However, it is difficult to overlook how social network learning is changing in both formal and informal learning contexts. The biggest problem for teachers is incorporating social media into the classroom while preserving consistency (Jennings & Weatherly, 2013). Other arguments against this hypothesis exist as well. This theory, according to Verhagen (2006), is not a learning theory since it remains at the level of an educational program rather than an educational institution. Connectivism is thus, for him, a pedagogy rather than a philosophy of learning. This argument is backed up by Kerr (2007), who characterizes the scenario as intriguing but not at the level of a learning theory. Additionally, according to Kerr, issues with this notion occur when it comes to skills like reading and writing that cannot be picked up at random. Another objection claims that connectivism is incompatible with other theories, and that it even appears to reject other learning theories (Al-Shehri, 2011). The connectivism notion appears to be appropriate for the learning strategy in the digital era, despite the objections voiced (quoted in Garcia, Brown, & Elbeltagi, 2013).

More studies have been done on connectivism in recent years. There seems to be increased interest in researching this technique as more institutions of higher learning provide digitally enhanced and/or online course offerings. In order to assess commonalities across constructivist learning frameworks, Mattar (2018) did a secondary investigation. While there were many linkages between philosophical beliefs and past learning models, a more intriguing conversation emerged after evaluating the connectivism results. Some researchers in this study argued that it should be a "new learning theory, more appropriate...for a digital age" (p. 11), while others remarked that it was more of a constructivist type of pedagogy. Overall, Mattar's work from 2018 makes the case that connectivism should be seen as "an updated form of constructivism, viewed as a broad philosophy of education for the digital age" (p.13). Additionally, he contends that additional study is necessary to better understand virtual, augmented, and related instructional technologies.

In a research study conducted by Smidt et al. (2017), the connectivism method and problem-based learning were combined to produce a new theoretical framework that would be used moving forward. Within a middle school environment, the researchers sought to "operationalize the connectivism concepts into an executable framework with the inclusion of problem-based learning and contextual learning" (p. 2116). Their research examines elements of connectivism and their application and how they apply to STEM curricula when problem-based learning is incorporated. Although the new strategy appears positive overall, readers are left wondering what comes next because it was not put into practice before the article was published.

In their evaluation piece, Duke et al. (2013) address the long-debated question of whether connectivism is actually a learning theory, instructional theory, or pedagogical philosophy. They begin by defining what constitutes a hypothesis. An instructional theory, on the other hand, must "prescribe processes to permit learning quickly and effectively," according to the authors, who define a learning theory as "one that has emerged through substantial testing and observation incorporating criterion of falsiability" (p. 4). They expressly state that "it is only via personal networks that the learner may gain the viewpoint and variety of opinion to learn to make critical judgments" in numerous lines on how connectivism might be its own unique learning theory (p.7). They express how connectivism has concepts in common with constructivism and behaviorism while also holding contradictory views. Duke, et al. (2013) assert that connectivism is an instructional approach to learning since it "addresses the question of how to support the learner at the instructional level."

A main research study on student engagement at the higher education level was carried out by Rajabalee, Santally, and Rennie (2020), with an emphasis on online courses. Data from completed learning activities from the course, their significance in relation to the course's results, and activities needing presence inside the learning management system were all examined. The learning module comprised exercises created using "an activity-based approach that is more inclusive of constructivist learning than the behaviorist model of learning" as its foundation (p. 16). Results showed a weak, positive connection between learning activity performance and engagement. The poor nature of the link between the two variables underlined the fact that, in online learning, the traditional model of knowledge acquisition primarily through online learning behaviors does have some predictive limitations, according to Rajabalee et al.'s (2020) conclusion (p. 16).

The final study project that was examined focused on professionals who were teachers in the K-12 educational system and linked to create a professional learning community. Thirteen practicing teachers who utilize social media for professional development were invited to a semi-structured interview as part of Oddone, Hughes, and Lupton's (2019) collective case study. The instructors illustrated their professional learning community before the interview, and they related experiences from various parts of the illustration during the interview. The examination of the data on themes was completed. According to the findings, the social media professional learning network enabled instructors to perceive learning as a linked profession in which they were learners, exchanged content with other learners, and acquired fresh information. While the claim that the case study 'ensures the legitimacy of the paradigm' (p. 115) may be ambitious, it nonetheless makes a valuable contribution, but it does contribute well to the connectivism literature.

The integration of connectivism and AR in language learning and teaching has demonstrated significant potential for enhancing educational experiences. Connectivism's focus on networked learning and technology aligns with the interactive nature of AR-based tasks. AR allows learners to engage in authentic language activities, promoting connections between learning and the real world. It fosters collaboration, critical thinking, and problem-solving, providing personalized learning. AR also enhances learner autonomy and motivation. This study explores the potential of AR in English Language Teaching (ELT) in Vietnam, particularly in Ho Chi Minh City. This context is particularly significant due to Vietnam's ongoing efforts to integrate digital technologies into education, as evidenced by initiatives from the Ministry of Education and Training (MOET). MOET has been actively promoting digital transformation in

education, including the development of a shared online training platform known as MOET-MOOC, aimed at enhancing digital learning across universities (Ministry of Education and Training of Vietnam, 2023). Ho Chi Minh City, as Vietnam's economic and educational hub, has been at the forefront of adopting educational technologies. The city has initiated pilot programs to introduce English as a second language in select schools, reflecting a policy shift toward emphasizing English proficiency (Le Nguyen, 2024). Additionally, Ho Chi Minh City has seen a growing presence of private language centers and edtech enterprises, such as Topica Edtech Group, which offer digital platforms for English learning and professional training (Topica Edtech Group, n.d.). These developments underscore the city's commitment to leveraging technology to enhance English language education. The increasing demand for English proficiency, particularly in sectors like tourism and hospitality, further highlights the relevance of this study. By investigating the application of AR in ELT within this dynamic environment, the research aims to provide insights that could inform broader educational reforms and the integration of innovative technologies in Vietnam's language education landscape.

AR technology in education, including Computer-Assisted Language Learning (CALL), Mobile-Assisted Language Learning (MALL), and Technology-Enhanced Language Learning (TELL), offers opportunities and challenges. The primary objectives include investigating how AR facilitates networked learning, enabling students to connect with peers and external knowledge resources. It also explores how AR stimulates exploration and discovery in language learning, fostering critical thinking and information synthesis. Additionally, the study examines how AR projects promote learner autonomy, allowing students to personalize content and learning pathways. The research looks at how AR technology catalyzes knowledge creation and sharing in a networked educational environment, empowering students to generate content and disseminate knowledge. Finally, it explores how AR-based projects facilitate reflection and metacognition, supporting effective learning experiences.

In this current study, the principles of connectivism by leveraging AR technology were integrated to create dynamic, networked learning environments that mirror real-world experiences and facilitate continuous education. Connectivism, as articulated by theorists like Prensky (2005) and Siemens (2005), emphasizes the importance of connections between information sources, learners, and learning communities, which is particularly relevant in today's digital age. By applying these principles, the study designed AR-based activities that encourage students to actively engage with both content and peers, fostering an interactive and collaborative learning

atmosphere. To achieve this, the study utilized AR to embed language learning within realistic and contextually relevant scenarios. AR technology allowed students to interact with virtual environments and objects related to the tourism and hospitality industry, promoting the creation of connections between their existing knowledge and new information (Siemens, 2005; Abrams, 2013). This aligns with the core idea of connectivism that learning is a network-based process where knowledge is acquired through the establishment and maintenance of connections. For instance, students might participate in AR simulations of customer service interactions, where they can practice and refine their speaking skills in a setting that closely resembles real-life situations. Furthermore, the study capitalized on AR's ability to integrate multiple forms of media, thereby supporting diverse learning styles and reducing cognitive overload. This multimedia approach could enhance the accessibility of information and enable students to process and retain language skills more effectively. By incorporating elements such as text, audio, and visual aids within AR tasks, the study would cater to the different ways in which students learn, as suggested by Abrams (2013) and Loureiro & Bettencourt (2010). Additionally, the study emphasized the social aspect of learning, a key component of connectivism. AR-based tasks were designed to encourage collaboration and peer interaction, facilitating the sharing of knowledge and collective problem-solving. This approach helped students develop a sense of community and engage in meaningful dialogues, thereby enhancing their learning experience. By integrating social media and other Web 2.0 technologies, the study provided platforms for students to connect, share insights, and support each other’s learning, reflecting the participatory nature of connectivism as noted by Aksal, Gazi, and Bahçelerli (2013). Moreover, the study promoted learner autonomy by allowing students to personalize their learning experiences. AR technology enabled students to explore content at their own pace, select topics of interest, and access resources that suit their individual learning needs. This personalized approach aligned with the connectivist emphasis on self-directed learning and adaptability in acquiring new knowledge. Students were encouraged to take control of their learning journey, fostering independence and intrinsic motivation, as highlighted by Khatibi & Fouladchang (2015) and Mattar (2018).

By integrating connectivism and AR technology, the study aimed to create a learning environment that supports the development of critical thinking, problem-solving, and information synthesis skills. AR projects were designed to stimulate exploration and discovery, enabling students to make connections between concepts and apply their learning to real-world contexts. This approach not only validates the educational strategies proposed in the thesis but also provides a robust theoretical

foundation for developing more effective instructional designs. The application of connectivism principles within AR-enhanced learning environments contributed to a deeper understanding of how innovative technologies can be leveraged to meet specific educational needs. The study seeks to enhance language learning outcomes by optimizing networked learning, fostering exploration and autonomy, facilitating knowledge creation and sharing, and supporting reflection and metacognition. This integration represents a promising strategy for enhancing language education in digitally connected contexts. It explores AR's potential in networked learning, exploration, learner autonomy, knowledge creation, and reflection. This research holds promise for transforming language education and preparing learners for a digitally connected world. While previous studies have explored AR in language learning and connectivism in online environments, few (if any) have integrated these two in a Vietnamese ELT context and this study aims to address that research gap.

2.2. Technology Acceptance Model (TAM)

To understand how learners adopt emerging technologies in educational settings, particularly within AR-enhanced environments, it is essential to draw on established theoretical frameworks. While connectivism provides a macro-level philosophy of learning in digital environments, the Technology Acceptance Model (TAM) offers a complementary micro-level framework. TAM helps explain how users come to accept and use technology by examining factors such as perceived usefulness and perceived ease of use, which in turn shape attitudes, intentions, and actual behavior. This model is particularly relevant to the present study, which explores Vietnamese EFL students' adoption of AR technology in an English for Tourism and Hospitality course. As shown in Figure 2.1, TAM outlines the sequential relationship between users' perceptions, behavioral intentions, and eventual technology usage (Davis et al., 1989).

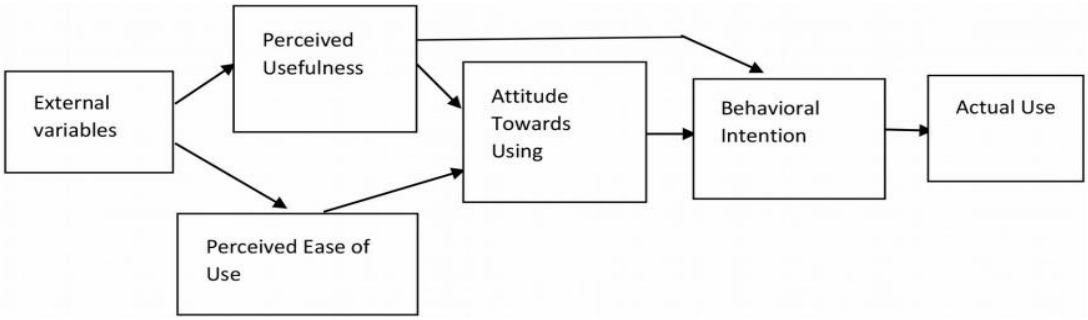

Figure 2.1 Technology Acceptance Model (TAM) (Based on Davis et al. 1989)

The Technology Acceptance Model (TAM) is a theoretical framework that can be applied to understand the acceptance and adoption of technology in language teaching and learning contexts. TAM posits that users' intention to adopt technology is influenced by two primary factors: perceived usefulness (PU) and perceived ease of use (PEOU). In the context of language teaching and learning, perceived usefulness refers to the degree to which learners perceive that technology, such as language learning applications or online platforms, can enhance their language acquisition process. Factors such as the effectiveness of language learning materials, the ability to practice language skills, and the convenience of accessing learning resources contribute to their perceived usefulness. When learners perceive that technology can improve their language learning outcomes, they are more likely to adopt and utilize it in their language learning activities.

TAM is a widely used theoretical framework in the field of technology adoption and user acceptance research. The Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen in 1975, is the theoretical framework on which TAM is built (Davis et al., 1989). A generic model called TRA is concerned with people's desired behaviors. According to TRA, a person's performance is influenced by their attitude and their perceptions of the appropriate conduct. Additionally, a person's ideas and motivations influence their conduct today (Ajzen and Fishbein, 1980). The TAM model was developed by Fred Davis in the 1980s and has since been extended and modified by various researchers. The Technology Acceptance Model seeks to explain and predict individuals' acceptance and usage of technology by considering their perceived usefulness and ease of use. According to the model, individuals are more likely to accept and utilize a technology if they perceive it to be useful for achieving their goals and easy to use. The model proposes that perceived usefulness is influenced by factors such as the perceived impact on job performance, productivity, and effectiveness. Perceived ease of use is influenced by factors such as the perceived effort required to use the technology, the complexity of the system, and the availability of training and support. TAM suggests that perceived usefulness and perceived ease of use directly influence an individual's attitude towards using the technology, which in turn influences their intention to use it. Ultimately, the model suggests that Intention to Use leads to actual technology usage. The Technology Acceptance Model has been applied in various contexts and has provided valuable insights into the factors that influence individuals' acceptance and adoption of new technologies. It has been widely used to understand technology acceptance and

inform the design and implementation of user-friendly and effective technology systems.

Numerous theoretical stances have been produced to comprehend how end users choose to employ technological programs. Theories offer resources for analyzing the success or failure of new IT application implementation procedures. The Innovation Diffusion Theory (IDT; Rogers, 1995), Theory of Planned Behavior (TPB; Fishbein and Ajzen, 1975), Unified Theory of Acceptance and Use of Technology (UTAUT; Venkatesh et al., 2003; 2012), FITT framework (Ammenwerth et al., 2002), and Technology Acceptance Model (TAM) (Davis, 1989) are the most prevalent theories in IT research. Among all other theories, the Technology Acceptance Model (TAM) (Davis, 1989; Davis et al., 1989) may be the one that is utilized the most (Ma and Liu, 2004; Kim and Chang, 2007; Yarbrough and Smith, 2007). TAM theory is based on ideas taken from the Fishbein and Ajzen (1975) attitude paradigm, which outlines how to measure the behavior-relevant aspects of attitudes, distinguishes between beliefs and attitudes, and outlines the causal relationships between beliefs, attitudes, and behavior as a result of external stimuli. A technology's Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) criteria are what the Technology Adoption Model uses to evaluate user adoption. PU is defined as the extent to which a person thinks that utilizing a specific system would improve work performance. PEOU is defined as the extent to which a person thinks utilizing a specific system requires little to no physical or mental effort (Davis, 1989; Davis et al., 1989; Davis, 1993). The TAM contends that attitude, perceived utility, and perceived usability all have a direct impact on one's intention to adopt technology. According to TAM, a person's desire to utilize technology impacts whether or not they actually use the application. A person's attitude toward technology can also influence their intentions. (Davis et al., 1989; Davis and Venkatesh, 2004; Venkatesh et al., 2012).

To pinpoint cognitive and emotional characteristics as essential elements of technological acceptance, the TAM theoretical model was created. A person's behavior intention (BI) is a factor in determining whether they would embrace and use technology (actual behavior), according to TAM. According to TAM, Attitudes to Use (AU), Perceived Usefulness (PU) and Perceived Ease of Use (PEoU) are "jointly determined" by their behavior. Thus, the degree to which users think that the tools would enable them to do particular activities would provide proof of that individual's PU. Users' descriptions of how simple it was to operate and learn to use a tool would serve as evidence for ease of use.

In the context of the current research, the application of the Technology Acceptance Model (TAM) to an AR-based educational project for university students necessitated a comprehensive examination of various critical considerations. These considerations encompassed several interrelated dimensions that have been meticulously analyzed and delineated. Firstly, the dimension of Perceived Usefulness (PU) was explored in depth. This vital dimension involved highlighting the benefits of AR technology, particularly its role in making abstract concepts more tangible and interactive. Firstly, it involved accentuating the benefits derived from the utilization of AR technology within the educational project. Secondly, it entailed a thorough emphasis on how AR technology could augment the learning experience by rendering complex concepts more tangible and interactive. Moreover, it encompassed the illumination of how AR technology could provide real-world applications and offer immersive simulations. Furthermore, it spotlighted the role of AR in facilitating engagement, critical thinking, and the development of problem-solving skills among students. Simultaneously, the dimension of Perceived Ease of Use (PEoU) was meticulously addressed. This dimension revolved around the user-friendliness and intuitiveness of the AR application. To ensure a high level of acceptance, the user interface was simplified, complemented by clear instructions and guidance for users. Additionally, measures were taken to offer comprehensive training or tutorials to familiarize students with AR technology and its functionalities. Addressing potential technical barriers or challenges that students might encounter was also a priority, with a dedicated focus on providing adequate support. The concept of Perceived Enjoyment (PE) was another pivotal dimension that featured prominently in the study. It encompassed several facets, including a pronounced emphasis on the enjoyable aspects inherent in the use of AR technology within the project. The study highlighted how AR applications could infuse learning with elements of engagement, fun, and interactivity. Moreover, it showcased how AR could create an enjoyable learning environment, offering novel experiences and captivating content. Encouragement was extended to students to share their pleasurable experiences associated with AR, thus fostering a sense of enthusiasm and satisfaction with the technology. Furthermore, the dimension of Attitude towards Use (AU) was scrupulously examined. Cultivating a positive attitude towards AR technology was considered indispensable. To achieve this, the study incorporated success stories and testimonials from students who had reaped the benefits of AR-based projects. It also promoted peer collaboration and the sharing of experiences to create a supportive environment conducive to the acceptance of AR. Furthermore, the study demonstrated the potential impact and value of AR in

enhancing learning outcomes and academic performance, further reinforcing a positive attitude towards its use. Lastly, the dimension of Intention to Use was explored. This involved nurturing students' intention to utilize AR by elucidating the relevance of the technology to their field of study and future career prospects. It included clear communication of project objectives, learning outcomes, and the integral role that AR played in achieving them. Moreover, the study offered opportunities for hands-on exploration and experimentation with the AR application, aiming to build confidence and excitement about its potential.

In short, the study comprehensively examined the multifaceted dimensions within the Technology Acceptance Model (TAM) when applied to an AR-based educational project for university students. Through a systematic analysis of Perceived Usefulness (PU), Perceived Ease of Use (PEoU), Perceived Enjoyment (PE), Attitude towards Use (AU), and Intention to Use, the research aimed to provide valuable insights into the acceptance and integration of AR technology in the realm of higher education. By applying the TAM framework to an AR-based project for university students, the present study intends to assess and address their perceptions of usefulness and ease of use, influence their attitude towards using AR, and ultimately promote the adoption and effective utilization of the technology for enhanced learning experiences.

2.3 English Speaking Skills

2.3.1 Concept of Speaking

Speaking is an oral ability used to communicate our thoughts, feelings, and views to others. Speaking is also a communication and message delivery action that allows the listener to digest the messages. Speaking is a useful oral ability that entails creating orderly verbal utterances to convey meaning, according to Nunan (2003: 48). In speaking, students learn how to form sentences, present ideas under the context in which they are speaking, and express language with clear articulation. Speaking is "an interactive process of constructing meaning that involves producing, receiving, and processing information," according to Brown (2004: 8140). According to the description provided above, speaking is an interactive process of creating systematic meaning that involves both the speaker's production and reception of information. The development of one's English-speaking abilities is a top priority for many second language or foreign language learners, according to Richards (2008:19). As a result, being able to communicate effectively has made speaking a crucial talent to learn. Speaking is an oral expression that, according to Mackey (2001), necessitates the employment of the right rhythm and intonation patterns, as well as accurate grammatical placement

and other language-related elements, in order to convey the intended meaning. As a result, being able to communicate effectively has made speaking a crucial talent to learn. As may be previously inferred, speaking is an oral manifestation of an integrated meaning-building mechanism that entails a phonological and grammatical system and the capacity for collaboration to provide information and ideas in the management of the speaking turn. Speaking is important for social connection since individuals speak all the time and everywhere, according to Gilakjani (2016). It indicates that in order to connect, build relationships, and exchange ideas or information with others, speaking is a linguistic tool and the most crucial ability. To master speaking, one must acquire the elements of speaking, such as pronunciation, grammar, vocabulary, fluency, and comprehension. With these elements, one may communicate with others more effectively and readily.

2.3.2 Components of Speaking

The capacity of students to respond to others and to communicate corresponds to their speaking skills. In addition to the speaker understanding what is stated, a response must also be possible. It should be remembered that when speaking, a person also functions as a respondent or speaker in addition to being a listener. Speaking ability is a useful talent that can be immediately and experimentally examined, claims Brown (2007). These results inherently affect the validity and reliability of an oral output exam by influencing the accuracy and efficacy of a test taker's listening skills. Pronunciation, grammar, vocabulary, fluency, and understanding are just a few of the abilities that students must be taught in order to communicate effectively in English when speaking (Harris, 1969).

2.3.2.1 Pronunciation

The way a word is pronounced is called its pronunciation. Hornby (2005) defined pronunciation as the way a language is spoken, the way a word is pronounced, and the way a person uses the language's words. Students can talk in a simpler language by pronouncing their words correctly. It deals with the phonological process, which is connected to the grammar's constituent parts and ideas that specify the variety and organization of sounds in a language. Good pronunciation may increase learners' self-confidence and have a beneficial impact on listeners' perceptions of a speaker's authority and expertise.

2.3.2.2 Vocabulary

According to Jack, Willy, and Renandya (2002), a learner's ability to speak, listen, read, and write is largely based on their vocabulary. Vocabulary is a fundamental part of language mastery. In this situation, students require media that

can facilitate the development of their vocabulary mastery when learning. It would be simpler for individuals to communicate in a foreign language if they can understand vocabulary (Aminatun and Oktaviani, 2019).

2.3.2.3 Grammar

Learning grammar would make it easier for students to communicate in English since they would be aware of the proper word order, verb tenses, and utterances. Ur (1996) defined grammar as the method by which words are combined to form proper sentences. When communicating ideas and thoughts, using proper language prevents misunderstandings.

2.3.2.4 Fluency

Fluency is the ability to speak clearly and continuously so that the listener may understand the intended message. Fluency, according to Richards (2005), is the use of natural language when a speaker engages in meaningful conversation and can recall it. Despite one's verbal inadequacies, this correspondence would be clear and uninterrupted. It does not imply that we overlook students' faults or errors when we provide feedback on their communications. Local issues should be less of a priority in order to improve students' fluency in their interactions.

2.3.2.4 Comprehension

Harmer (2007) asserts that during speaking exercises, it is expected of each student to understand what was stated. Given that speakers respond more quickly to communications when they are comprehended well, it is implied that understanding is another key element to be examined.

2.3.3 Teaching Speaking and Technology in Teaching Speaking

Speaking is the act of expressing oneself verbally in order to interact with others. Speaking may also be described as the ability of an individual to convey thoughts to others. To communicate successfully, people must speak. According to Brown (2000), instruction talking is a style of speaking that teaches novices how to adopt a direct tactic and have more or less interplay in conversations. It suggests that teaching speaking is a way to communicate something important to students and invite them to come up with the concept before they speak about it in class. Harmer (2007) lists three justifications for instructing speaking: (a) The speaking exercise gives students the chance to practice speaking in real-world situations, so they feel safe in the classroom. (b) In a speaking assignment, students try to utilize one or all of them who are familiar with it and give comments to the teacher and other students. (c) Many students have had the chance to develop more viability or vigor in many facets of the language. In conclusion, there are three benefits to teaching speaking to students: it

encourages active class participation, it gives them a wide vocabulary to build sentences in a foreign language, and it enables them to produce words more effectively, especially in English. Speaking activities also encourage students to voice their diverse opinions in front of their peers outside of the classroom as well as in front of the class. As a result, students must speak authoritatively when they explain the subject or the context of a conversation.

Research on how students are taught speaking, particularly utilizing the English language, is proliferating. This is because teachers are resourceful, as they employ a variety of tactics, techniques, and approaches to cultivate students' speaking abilities. They employ a variety of techniques and strategies to help students become more proficient communicators. They create their courses to make studying English more pleasant so that students may adopt a more positive outlook (Noom-ura, 2008). Numerous studies have been done to determine the finest and most efficient methods and techniques for enhancing communication skills. According to Koşar (2019), there is a substantial difference between students learning English from native speakers and those who do not. After a research investigation, some even advised information and practice for improving speaking abilities. To improve their capacity to apply task-based language teaching while creating and carrying out lesson plans, Murad and Smadi (2009) suggested that teachers incorporate task-based language teaching ideas and processes in their classroom practices and pre-service training programs. The effect of using L1 on EFL learners' L2 speaking abilities as well as their views of L1 usage in encouraging oral production in L2 were explored by Yüzlü and Derin (2020). On the efficacy of a tactic used to improve communication skills, some studies were done. Role play, according to Qing (2011), is a very effective technique for encouraging interaction among students and giving them a chance to practice speaking in the target language. Additionally, it recommended using role play to improve students' multicultural awareness and aid in the development of their general communication skills. Furthermore, role play is a recommended method in task-based language instruction that has a favorable impact on students' speaking abilities, according to Aliakbari and Jamalvandi (2010). Additionally, where it is available and accessible, using technology in teaching techniques is an essential practice in teaching English as a foreign language. There have been suggestions made about using technology to teach speech. To help students develop their oral abilities, CMC (computer-mediated communication) is suggested as a method for teaching pronunciation and dialogue (Hong, 2006). McDougald (2009) found that the technology used to teach language skills is undoubtedly a supplement to traditional instruction, particularly when it comes to

improving English reading, writing, and listening abilities. One of the improvements in how languages are taught in schools that puts more emphasis on using language for communication than merely passing exams is the use of technology in speaking lessons (Thao, 2003). Furthermore, Bahadorfar and Omidvar (2014) pointed out that employing technology has been perceived as a means of assisting students in enhancing their language proficiency. Also, these resources are regarded as the best for teaching speaking abilities. Furthermore, Huang and Hung (2010) state that an e-portfolio is a tool that helps students communicate with a rich vocabulary, which enhances oral performance learning. Student acceptance of using such technology to teach speaking is quite high. Similarly, podcasts, the internet, video conferencing, voice recognition software, blogging, and video conferences are thought to be some of the best teaching tools for speaking skills (Parveen, 2016). It seems clear that technology is essential to surviving in the modern world given that both educators and students now interact with one another through these platforms. Technology is now used as an extra instructional tool to help teachers improve their students' speaking skills. Using technology to teach speaking has become essential, especially when teaching English to speakers of other languages (Hong, 2006). It was mentioned that the first goal of computer-mediated communication in the teaching of conversation and pronunciation was to enhance students' speech performance. Along with many of the modern technological instruments, the speech laboratory is also crucial for teaching speaking and speech articulation (Margret, 2010). Additionally, video conferencing software is regarded as a crucial computer-mediated communication tool for fostering correctness and fluency in speaking. In addition to facilitating social connection, it provides oral reinforcement of course material outside of the classroom for fluency, accuracy, and social skills (Roma Correa, 2015). Likewise, one effective technological technique for teaching speaking is digital storytelling. It creates a unique narrative medium by fusing computer technology and the art of storytelling with visual designs like text, graphics, and audio. More specifically, adopting digital storytelling in the classroom has helped students improve and grow their English-speaking abilities since it enables them to narrate stories in their own words and voices (Somdee and Suppasetseree, 2013). Television and other digital cartoons help students improve their communication skills. Cartoons use music and images to grab the audience's attention and increase students' motivation to learn how to speak (Fata & Wahyuni, 2016). Additionally, the use of information and communication technology (ICT) improves oral performance, motivation, and speaking ability (Idayani & Sailun, 2017). It has a tremendous and significant impact on how well students learn, and students report that their speaking

abilities, understanding, and creativity have all increased as a result. According to Ampa, Rasyid, and Rahman (2013), using multimedia as the learning material as one of the ICT technologies has a substantial impact on improving students' English-speaking skills. As it increases students' enthusiasm to study, video blogging is helpful (Rakhmanina and Kusumaningrum, 2017). Similar to how a smartphone may help with public speaking phobia, according to Machmud and Abdulah's (2017) research, groups of students with high and low anxiety levels performed better on speaking tests when they were taught using smartphones as opposed to when they were taught using a traditional speaking instruction paradigm. The speaking abilities of students change significantly when taught through technology, such as WhatsApp contact, according to Akkara, Anumula, and Mallampalli (2020). Comparing the experimental group to the other group who were taught to speak English using the traditional technique, the experimental group's use of technology in speaking instruction had a greater impact on their English fluency. Additionally, English as a second language students who improve their speaking abilities have higher language competency and improved self-confidence, according to Rodrigues and Vethamani (2015). The use of technology in speaking instruction has a variety of benefits for students. Goh (2016) asserts that the use of technology in speaking instruction improves the accuracy, fluency, and complexity of language. Furthermore, technology-assisted speaking instruction improves students' lexical resources, coherence, pronunciation, and grammatical range, according to Akkara, Anumula, and Mallampalli (2020). More precisely, teaching speaking to students through technology improves their speaking skills, which in turn benefits their fluency, pronunciation, and speaking abilities. It also helps students who have trouble communicating (Hamad, Metwally, & Alfaruque, 2019).

2.3.4 Challenges in Learning and Teaching Speaking Skills: Global and Local Perspectives

Most Vietnamese students find it extremely difficult to acquire English speaking since there are major disparities between the two language systems. The four key characteristics that Ur (2000) identified for learners' speaking challenges are inhibition, lack of ideas, limited involvement, and the habit of using their mother language. One psychological issue that hinders students from speaking is inhibition. They commonly worry about other people's speaking influence, making mistakes in front of their peers, receiving criticism, and seeming foolish when speaking. Some other researchers agreed that when students are expected to do speaking activities, they may experience tension and anxiety. Additionally, many students occasionally lack ideas for the prescribed speaking topic since it is obscure or boring. When students are

unsure whether what they are going to say is accurate, they choose to remain silent or participate very little. Most learners prefer to think in their original language before translating their ideas into the target language (Pathan, Aldersi & Alsout, 2014; Keong, Ali & Hameed, 2015).

According to a few investigations (Tobias & Everson, 1997; Amini, Mojallal, Karimpour & Alizadeh 2014), psychological elements like motivation, anxiety, and confidence may also have a direct bearing on how well students talk. According to Othman & Shuqair (2013), language learners would have better success learning to speak when they are eager, passionate, and willing to participate in speaking activities. Meanwhile, hesitant or pressured English language learners typically refrain from expressing what they are thinking in English. Unpleasant learning environments might make students feel uncomfortable participating in speaking activities, which is another obvious challenge. The creation of an engaging speaking environment gives students additional chances to boost their motivation for speaking. Therefore, having a healthy mental state enables students to speak more fluently.

Thao and Trung (2022), in a study titled "Difficulties Encountered by Students at a University in Vietnam in Speaking English," discovered that Thai Nguyen University's EFL students more frequently encounter linguistic than psychological challenges when speaking English. They encounter problems with pronunciation, grammar, and vocabulary. The most prevalent linguistic issues, which are brought on by the usage of one's native language, lack of practice, and insufficient linguistic education, are grammar ineptitude and a lack of vocabulary. Because they use Vietnamese so frequently in English classes, students frequently forget to pronounce final sounds or mispronounce Vietnamese words. Additionally, due to a lack of linguistic expertise and practice, several English terms and grammar structures are difficult to recall. EFL students at Thai Nguyen University experience psychological issues with attitude, anxiety, and motivation. Although students are highly motivated and have a positive attitude, they also experience significant levels of anxiety, which is related to how they see themselves, the learning environment in the classroom, and the teachers.

Trinh, N. B., and Pham, D. T. T. (2021) found that language challenges were more common for non-English majors than psychological ones. Additionally, psychological issues with students have been found, such as pressure to do well, being outperformed by better students, anxiety related to making mistakes in front of the class, and fear of being criticized or losing their faces. The language challenges include

a lack of vocabulary and subject expertise, an inability to organize ideas rationally, poor sentence-formation abilities, and incorrect terminology.

Quyen et al. (2018) pointed to a variety of factors as the main barriers to students' speaking abilities, including their lack of vocabulary and English-speaking strategies, the lack of native English speakers among teachers, and the limited English-speaking environments around them. Additionally, although Nguyen and Tran's (2015) study on the English-speaking barriers of high school students was slightly different from earlier studies, the findings similarly analyzed problems caused by learners' weaknesses in speaking English and suggested the need for teachers to have ready support by diversifying their teaching activities.

Le (2011) at Ba Ria - Vung Tau University highlighted students' difficulties with their English-speaking abilities related to (1) issues with students, including learning styles, concerns, and language competency; (2) issues with lecturers, specifically their teaching methods; and (3) issues with teaching facilities. Ngo (2011) at Thai Nguyen University conducted a further investigation on the issues with students' speaking abilities in three difficult domains: social culture, linguistics, and psychology.

In short, the studies conducted at different universities in Vietnam reveal that students encounter difficulties speaking English. These challenges can be divided into linguistic and psychological issues. Linguistic challenges include problems with pronunciation, grammar, and vocabulary due to the influence of the native language, lack of practice, and inadequate education. Psychological issues relate to attitude, anxiety, and motivation, with students being highly motivated but also experiencing anxiety related to the learning environment and teachers. Non-English majors face more language-related challenges than psychological ones, including a lack of vocabulary and subject expertise. To improve English-speaking abilities, it is suggested to provide support to teachers, create more English-speaking environments, and address students' learning styles and concerns. Overall, addressing both linguistic and psychological aspects is crucial for enhancing students' English-speaking skills.

2.4 English for Specific Purposes (ESP)

2.4.1 Definitions and the Development of ESP

English for Specific Purposes (ESP) is a term used to describe the teaching and study of English as a second or foreign language in a specific subject. It helps students complete their fieldwork objectives. There have been several definitions of ESP to date. For instance, “ESP is an approach to language teaching in which all decisions as to content and method are based on the student’s needs.”, according to

Hutchinson and Waters (1987, p. 19). Another description offered by Anthony (2018) describes ESP as a method of language instruction that focuses on the language, skills, discourses, and genres necessary to meet students' academic or occupational goals (p. 10). Additionally, ESP entails teaching and acquiring the unique language and abilities required by certain students for a specific goal, according to Day and Krzanowski (2011).

Basically, the idea of ESP emerged in the 1960s when students and entrepreneurs began to see that English language instruction alone was insufficient to satisfy their needs (Li, 2018). The need for ESP is increasing because of English's rapid expansion in several fields, including business, media technology, medical, education, and research. This is especially true in countries where English is used as a tool for national advancement (Bhatia, V., Anthony, L., & Noguchi, J., 2011). The purpose of ESP is to assist students in enhancing their proficiency in English communication in a range of professional situations, including but not limited to accounting, marketing, management, human resources, engineering, and strategic thinking (Xu et al., 2020). Students often study English because they need it for their education or employment, not because they are interested in the language or culture of the English-speaking world. In ESP, English is taught not just for its own sake or for general education but also to facilitate entry into or improve performance within a broader language context, such as that present in academic, professional, or workplace settings (C. Kennedy, 1988)

It has been noted that ESP has its own unique approach to materials, teaching methods, examinations, and other elements that cater to student needs and educational objectives. The variables are changed to reflect the following after that: a) ESP could be connected to or produced for certain fields; b) ESP might use a different teaching method from that of general English in particular teaching contexts; and c) ESP is probably created for adult learners, either at a higher institution or in a professional job setting. The fundamental idea of the target learners' primary language demands should serve as the cornerstone around which the ESP approach is built. To satisfy the needs of the students, this should be supported by suitable instructional materials and practice (N. I. Susanthi, 2019). Since improving students' communicative competence is one of the goals of ESP teaching and learning, the focus of an ESP approach should be on learner-centered activities that prioritize communication. The ESP teaching and learning process in the classroom is learner-centered, which means that the learner's goals for mastering a specific aspect of the English language in the shortest amount of time possible serve as the foundation for the instruction (J. Luo and M. Garner, 2017). This is done in order to effectively satisfy the demands of the

learners.

Alduais (2012) claims that ESP emphasizes certain skill levels and linguistic components that are assessed and determined by the needs, reasons, and awareness of learning the language. ESP has recently been defined as an English variation that encompasses a number of professional sectors and particular knowledge domains by Sarre and White (2017). Due to the current high level of mobility as well as job objectives and requirements as a result of globalization, ESP courses should be tailored to the needs of individual students (Anthony, 2015) and identify the necessary linguistic and non-linguistic skills along with the knowledge needed in the field of expertise (Işik-Taş & Kenny, 2020). Therefore, Li (2018) stated that needs analysis is essential in the various ESP fields of study that need to be taught in order to design teaching materials that adhere to the educational curriculum and include the knowledge of "key terminology and concepts" (Stoller & Robinson, 2018:30) as well as their practical application. The transfer of students from general English instruction provided in secondary school stages to more specialist language use is required for the teaching of ESP courses in higher education programs (Stoller & Robinson, 2018). Grammar, specialized vocabulary, and practice with the four abilities are often taught using topic-based ESP coursebooks that adhere to the course syllabus and curricular requirements. Despite their value, they might occasionally be out-of-date, and the exercises given to students could not always correspond to situations that are appropriate for their requirements. Therefore, it is the duty of ESP educators to create and implement materials that are appropriate for their future professional careers while promoting active learning and pleasant learning environments (Vora, 2020). In order to adequately prepare students for the technologically advanced and globally interconnected world of today, it is imperative that teaching practices, and ESP courses in particular, intentionally integrate ICTs and Web 2.0 apps to enhance students' digital competence.

2.4.2 Challenges in Teaching ESP

Learning ESP has certain challenges, primarily concerning the students themselves. Suzani (2011) claims that the need for ESP among students is not sufficiently satisfied in the following ways: Students are not prepared for ESP courses; ESP classes are frequently overcrowded; ESP classes are occasionally postponed or canceled for no apparent reason; ESP teaching methods are still passive, and in some universities, learners' motivation wanes because they believe ESP is unimportant for their future employment. Second, the challenges faced by teachers are listed by Thi To Hoa and Thi Tuyet Mai (2016), and one of them is the quality of lectures and textbooks in ESP courses. Most materials are created to help students develop their

listening, speaking, reading, writing, and translation skills, but some teachers think that a strong vocabulary is sufficient for their students. As a result, many textbooks created by teachers simply focus on reading abilities and vocabulary exercises, which do not engage students very much. Ho (2011) also claims that issues with course design, activities, assignments, and teaching strategies are a challenge for teachers. Students are required to engage in group projects, give presentations, take notes, and write essays about the material they have learned in class. However, due to a shortage of time, certain courses are occasionally not taught very effectively. The most recent challenges are caused by the environment and others' lack of instructional resources. According to Maruyama (1996), ESP materials that are too advanced for students' skill levels make them uninterested in learning. Additionally, due to their weak grasp of the material, students are unable to deepen their understanding. Many students acknowledge that they learn ESP not because they want to but because they have to, and that after tests they forget what they have learned. Furthermore, according to Maruyama (1996), classrooms with too many students negatively affect the effectiveness of teaching ESP, particularly when there is a disparity in student skills. Most students perceive it to be either too hard or too easy, given their understanding. Students lack interest in studying the subject as a result.

2.4.3 English for Tourism and Hospitality

Business English is currently regarded as the dominant language in business communication and serves as the foundation for establishing and maintaining global commercial relationships. This is also true for the tourism industry, where a strong command of this language is necessary for a significant number of occupations both domestically and internationally (such as tour guide, travel agent, receptionist, manager of tourism activities, hotel or restaurant manager, concierge, etc.). Regardless of whether English is a requirement for work in the tourist industry or not, it is certain that it is a great benefit for both employment and professional progression. Furthermore, considering that outbound visitor flows within the travel and tourism business have consistently expanded at a worldwide level in recent years, it is without a shadow of a doubt that strong capabilities in this language serve as the foundation for ensuring customer satisfaction. (UNWTO, 2023)

These are all facts that language teachers at the academic level should always keep in mind since, among other things, the university has to improve students' language competency so that future graduates could be well-prepared for an extremely competitive job market. English is an essential language for the travel and tourism sector. To function well at work, employees of tourism businesses need to

speak English well. Because employees in the tourism and travel industry do a range of duties, including answering phones, providing location guides, booking hotels and flights online, processing reservations for rental cars, etc., English is frequently used for interpersonal communication. According to experts in the field of teaching ESP, high-quality materials must adhere to a number of criteria, including being authentic, encouraging collaboration and critical thinking among students, meeting their needs, and integrating language skills. The publication of several textbooks that adhere to these principles has recently enriched the book market in the area of English for Tourism and Hospitality.

In the domain of international tourism, the English language unquestionably holds a prominent position (Crystal, 2003). Scholars and policymakers in developing nations and regions emphasize the importance of acquiring English communication skills as a top priority. This emphasis is vital for ensuring high-quality services in tourism, attracting a steady flow of tourism export income, and meeting the aspirations of entrepreneurs and workers. Consequently, the teaching and learning of English for tourism have become a global endeavor. However, it is essential to critically assess the perceived value of achieving 'native-like' English proficiency. International tourist destinations are diverse, multilingual spaces where language use is constantly negotiated based on context and audience (Held, 2018). The linguistic landscape in these destinations is rarely 'English-only,' and oral interactions often involve code-switching and translanguaging. Furthermore, many tourists seek 'authentic' experiences, including exposure to local languages and cultures. Forms of mass tourism, such as cruises and bus tours, often operate exclusively in tourists' first languages, minimizing interactions between locals and visitors (Shambaugh, 2013; Arlt, 2006). While English plays a significant role in international tourism communications, most encounters between local service providers and foreign visitors involve 'non-native' speakers of English (McHenry, 2019). Therefore, teaching communication skills for tourism should embrace plurilingual and intercultural education models (Bosch and Schlak, 2013). Teaching English for tourism should also consider English as a lingua franca (Jenkins, Baker, and Dewey, 2017; MacKenzie, 2014; Jenkins, 2012).

Within the context of hospitality and tourism, proficiency in all four communicative language skills in English, namely listening, speaking, reading, and writing, is widely recognized as essential (Prachanant, 2012). Nevertheless, extensive research findings emphasize that learners in English language classes within the hospitality and tourism sector prioritize the development of speaking and listening skills, given the inherently communicative nature of their work (Ghany & Latif, 2012;

Kaharuddin, Hikmawati, & Burhanuddin, 2019; Putri, Kher, & Rani, 2018). This emphasis on speaking and listening skills is not confined to a specific region; it is a trend observed in various Asian countries. Studies conducted in Pakistan (Yasmin, Sarkar, & Sohail, 2016) and Japan (Bury & Oka, 2017) have both concluded that within the realm of tourism and hospitality, listening and speaking skills hold paramount importance compared to reading and writing skills. This consistent pattern underscores the universal recognition of the centrality of speaking and listening abilities in the context of English language education for hospitality and tourism professionals. It is crucial to acknowledge that the ability to communicate in English remains vital for any tourism-related business endeavor or career. English, in its various forms, prevails in almost every international tourist destination worldwide. Furthermore, English language features have significantly influenced how other languages are used for tourism, from lexical borrowings to rhetorical structures (Raţă, Petroman, and Petroman, 2012). The dominance of English is also evident in academic discourse related to tourism studies, with English serving as the primary language for scholarly discussions, carrying epistemological implications (Korstanje, 2020). Consequently, stakeholders, including academic institutions, consider English an indispensable skill for both studying tourism as a field and engaging in tourism as an economic activity.

Despite the acknowledged importance of English in tourism, the teaching of English for tourism has been overlooked in academia, especially in the field of English for specific purposes (ESP) in North America and Western Europe (Ennis and Petrie, 2019). While research has explored how English is used and translated in tourism marketing materials, travel literature, and other forms of communication, the specific domain of English for tourism as a specialized language has not received adequate attention. The language of tourism encompasses distinct linguistic features at various levels, making it essential to approach its instruction from an ESP perspective (Otilia, 2013; Wade, 2013; Ruiz Garrido and Saorín-Iborra, 2006; Aleson-Carbonell, 2000; Huntley and Gonzales, 2000; Walker, 1995). However, the teaching of English for tourism professionals has often been perceived as a non-academic, remedial service, hindering the development of globally connected academic discourses and communities of practice (Ennis and Petrie, 2019). Historically, English for Tourism has been acknowledged as one of the oldest forms of ESP (Strevens, 1977), yet much of the related research has been confined to specific tourism contexts and not widely accessible across national boundaries (Ennis, 2019). Despite its existence, there has been a lack of consolidated literature reviews in this field. Addressing this gap, an exploratory study was initiated in 2016, building upon prior efforts to generate a

syllabus for an English for Tourism Studies course (Ennis, 2020). This initiative aims to bridge the existing knowledge divide and contribute to a comprehensive understanding of English for tourism within the broader academic and professional discourse. The surge in global tourism necessitates enhanced communication skills to facilitate improved global interconnectivity. English, as an international language, plays a pivotal role in this scenario, making mastery of the language imperative for employees in the hospitality and tourism sector. Effective communication in English ensures efficient service delivery, while poor language proficiency often leads to communication breakdowns and inefficient services (Al-saadi, 2015). Proficiency in English communication is not confined to tourism companies operating in English-speaking countries; it is essential for all sectors within the tourism industry (Chaudhary & Kaur, 2016). In the era of globalization, mastering English is crucial for accessing information, technology, and international communication. English, designated as the Lingua Franca, serves as the unifying language, enabling interactions between people from different countries (Astawa et al., 2019). This significance of English is particularly prominent in the tourism industry, where it has been a means of communication for centuries. Residents of international tourism areas require English language skills to engage intensively with tourists, highlighting the indispensability of practical English knowledge for tourism practitioners (Astawa et al., 2019). Tourism, with its substantial impact on global economic development, has prompted many countries to prioritize the sector, leading to economic growth, job creation, and poverty alleviation. English proficiency is integral to this growth, as it enhances communication between tourism workers and visitors, ensuring mutual satisfaction and potentially increasing the influx of tourists (Wilson, 2018). Moreover, tourists are increasingly seeking specialized experiences, such as exploring local cultures, historic sites, art, performances, religious relics, and culinary offerings. To cater to these needs, tourism employees must communicate effectively in English (Che Hassan & Ong Lok Tik, 2019).

The economic benefits of tourism are multi-faceted, encompassing economic, socio-cultural, environmental, and scientific aspects. Economic growth, a vital indicator for countries worldwide, is closely linked to the tourism sector. Tourism not only boosts local economies but also provides employment opportunities. Proficiency in tourism-specific English is fundamental for professionals in this sector, ensuring comprehensive and holistic service delivery (Zahedpisheh et al., 2017). As a significant component of economic growth, hospitality requires English proficiency among its personnel. The tourism industry, being one of the largest globally, demands effective communication to provide superior services to tourists. English competence

is indispensable in this context, although many practitioners face limitations in English skills and confidence (Fujita et al., 2017). Effective communication is paramount in the globalized business environment, with English emerging as the standard language for business interactions (Astawa et al., 2019). Consequently, proficiency in English, both written and oral, is essential for employees in the tourism sector, ensuring service excellence and contributing to long-term economic growth (Prachanant, 2012). In short, the mastery of English communication skills is fundamental for professionals in the hospitality and tourism industry. Proficiency in English not only enhances service quality but also fosters global interconnectivity, contributing significantly to the economic, cultural, and social development of nations involved in the tourism sector. Researchers continue to explore the potential of language in tourism, emphasizing the need for tailored language curricula and learning materials to meet the specific demands of tourism stakeholders (Irimiea, 2019; Puspitasari, 2018).

Liu, Wu, and Huang (2013) emphasize that practical activities rather than theoretical learning are what attract hospitality and tourism students the most. As a result, to engage students in learning certain programs, teachers must consider their learning preferences when instructing them. The teacher should also adopt some strategies when teaching English to tourism students, such as modernizing the teaching concept and methodology, defining learning objectives, shifting from a teacher-centered to a student-centered approach, integrating curriculum provision and textbook selection with local attractions and culture, and improving school-enterprise cooperation (Qin, 2013). Teaching ESP to tourism students should also place a strong emphasis on choosing and deciding on suitable resources. To better meet the requirements of the students, the ESP teachers must add to and adapt the existing instructional materials (Baghban & Ambigapathy, 2011). According to Masoumpanah & Tahririan (2013), it is challenging to locate a textbook that includes all contents regarding the students' demands; hence, ESP teachers must create supplemental resources to accompany the primary textbook. Similar to that, Leong & Li (2011) demonstrated how easy it is to provide adequate teaching materials given the dearth of pertinent English textbooks for the tourism program. Esteban & Martnez (2014) noted that considering these facts, the use of technology, such as the internet, in teaching ESP encourages the development of teaching materials. The most well-known of these are the ***English for International Tourism*** series (Pearson Education Longman), the ***Oxford English for Careers: Tourism*** series, the ***English for Tourism and Hospitality in Higher Education*** series (Garnet Education), and ***Test Your Professional English: Hotel and Catering*** (Pearson Edu). They are all English courses for tourism that do

not concentrate on any particular brunches, are visually appealing, occasionally include supplemental materials like workbooks, teacher's books, or even test booklets, and would be very appealing to students and useful to teachers if it weren't for their occasionally prohibitive prices. However, despite their high quality, most of these products are rarely used in the classroom in their original state. This occurs for a few reasons. First, they cover a lot of materials-usually over 100 teaching hours-making it necessary to study at a level for more than three semesters. This implies that, for the most part, teachers should modify these materials for use in the classroom, omitting certain tasks or, if needed, extending others. As a result, personalizing these products is the only way to truly satisfy students' requirements. First, following the needs of the students, they can combine generous online resources with specific websites that offer very helpful and varied exercises, such as alison.com/learn/English-for-Tourism, learnenglishfeelgood.com, esl-lab.com, englishformyjob.com, englishclub.com, business-english.com, bbcenglish.com, onestopenglish.com, etc. Additionally, teachers should commit to creating additional activities based on real-world resources, such as travel magazines, TV documentaries from reliable channels, official websites (such as culturalromtour.com, unwto.org, and vietnamtourism.com), travel blogs, brochures, recordings of conversations with travelers, and so on. Additionally, they may use experienced students as a teaching and learning resource who have both job pre-experience (from their role as clients) and job experience (from their position as employees in the area).

The students of tourism and hotel management must be proficient in speaking, listening, reading, and writing, according to Masoumpanah & Tahririan (2013). But speaking abilities are crucial in the tourism sector since, in their employment, students engage in communication tasks like offering directions, soliciting and providing tourist information, providing details about hotel amenities and mealtimes, etc. In addition, Prachanant (2012) showed that speaking skills are thought to receive greater emphasis when developing students' language abilities. His research focused on language use in the tourist business. According to Brown (2000), teaching speaking is the process of imparting accuracy and fluency to students. Teaching language usage or language-focused instruction concerns teaching accuracy. Teaching language usage or message-focused instruction is part of teaching fluency. According to Thornbury (2005), teaching speaking is a collaborative activity that calls for cooperation in the coordination of speaking turns. Therefore, the ESP instructor should offer a range of learning activities, including group discussions, role plays, etc., to enhance students' speaking abilities for tourist reasons (Zahedpisheh, Abu, & Saffari, 2017). It is consistent

with Thornbury's (2005) explanation that autonomy assignments provide students with additional practice opportunities so they can take full advantage of speaking opportunities. Presentations, conversations, and role plays can all be used to accomplish this. It is further supported by Harmer (2007), who claims that speaking exercises, including presentations, conversations, and acting from scripts, may help students improve their speaking abilities.

Vietnam possesses lots of advantages for the growth of tourism thanks to suitable conditions, including beautiful natural beauty and a tropical climate. Therefore, the tourism and hospitality services sector has grown and raised itself to the forefront of the country's economic growth. As a result, English for Tourism and Hospitality is becoming increasingly popular as a niche demand for future graduates in the tourism industry. Tran (2021) analyzes how the COVID-19 pandemic affected human resources training for the tourist industry and the teaching of English for Tourism. Since then, the author has offered suggestions for solutions regarding the teaching and learning of English for Tourism at universities affected by the COVID-19 pandemic to enhance students' learning outcomes and provide a setting where ideas may be gradually developed regarding the quality of teaching the English Language for the Tourism Industry. Additionally, in the period of development and integration following the COVID-19 pandemic, educators also contribute to prompt responses to the nation's growing needs in the language of tourism as well as in the economic, cultural, and social sectors in Vietnam.

2.5 Augmented Reality

2.5.1 Definitions of AR and its Categories

Morton Heilig (1926-1977) was the first to study AR, and Tom Caudell came up with the term in the 1990s (Zhang, 2018). Although Tom Caudell, a former Boeing researcher, invented the phrase "augmented reality" in 1990, the idea of adding virtual data to the actual environment was first employed in a variety of applications in the late 1960s and early 1970s. Some major corporations have employed AR for training and visualization purposes since the 1990s. The notion of AR may now be used in conventional learning contexts like schools and colleges due to the increasing capacity of personal computers and mobile devices. AR has received several interpretations in recent years based on the reality-virtuality continuum.

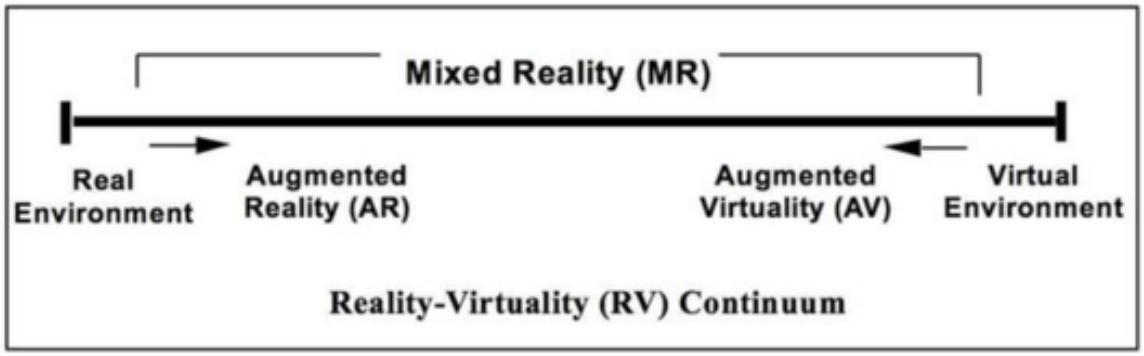

Figure 2.2 Augmented reality: A class of displays on the reality-virtuality continuum (Milgram et al., 1995)

Milgram et al. (1994) describe AR as "augmenting natural input to the operator with simulated cues." The notion of AR may be distinguished from ideas like virtual environments, also known as virtual reality (VR), and augmented virtuality (AV), thanks to the reality-virtuality continuum. While AV is concerned with environments where "the primary world being experienced is in fact [...] predominantly 'virtual' and "augmented with information from the real world," VR deals with settings where "the participant-observer is totally immersed in a completely synthetic world". A more limited definition of AR is provided by Milgram et al. (1994), who define it as "a kind of virtual reality where the participant's head-mounted display is transparent, enabling a clear view of the actual world."

The defining characteristic of AR is the overlaying of certain virtual elements-such as images, movies, or 3D animations-on top of the surrounding world. This real-time blending of physical and digital components contributes to the creation of an enhanced "real" experience. Azuma (1997) identifies three key characteristics of AR systems: a blend of actual and virtual dimensions, real-time interactions, and the use of 3-D. At its very first development, there were two types of AR technology: location-based and image/object-based (Cheng & Tsai, 2012; Wojciechowski & Cellary, 2013). Image/object-based AR utilizes an image or an object to activate the overlaid virtual elements using a smartphone or tablet camera, as opposed to location-based AR, which uses a mobile device's geographic position as a trigger for the GPS sensor for a virtual overlay (Carmigniani et al., 2011). The bulk of applications in this category are image-based since employing the form of an actual object as a trigger presents technological difficulties. The most prevalent type of AR in educational contexts, according to Bacca, Baldiris, Fabregat, Graf, and Kinshuk's (2014) review research, is the usage of images. Zhang (2018) conducted a survey of publications from 2003 to 2018 and found 10 peer-reviewed empirical studies that looked at the usage of AR in

language instruction. Half of the 10 investigations employed image/object-based AR, and the other half used location-based AR. According to Bacca et al. (2014), image/object-based AR's tracking technique provided a better user experience since it was more dependable than location-based tracking.

Up until 2023, it was modified and developed into five different types of AR technology to be compatible with numerous business and educational sectors (StreakByte, 2023). They are: (a) Marker-based AR, also known as image recognition AR, utilizes QR codes or visual markers to trigger interactive experiences. Users scan the marker with their smartphone camera to activate visual effects and view 3D digital images on their screens by moving their mobile devices around the marker. (b) Markerless AR, on the other hand, does not require physical markers like QR codes. Instead, it uses location-based data from GPS or accelerometers in mobile devices to detect and track the user's environment. It determines the location of virtual content, understands spatial relationships and orientation, and superimposes the virtual content accordingly. (c) Projection-based AR relies on projectors to display 3D imagery or digital content on flat two-dimensional surfaces like walls, floors, or objects. It is often used for creating holograms for events and movies but does not offer fully immersive environments. (d) Superimposition-based AR replaces or augments existing physical items with digital content. It identifies specific objects or features in the user's view and overlays relevant digital content onto them. For example, it could replace a book cover, a product label, or a landmark with digital augmentation. (e) Location-based AR is a type of Markerless AR that uses geographic data to deliver digital images at specific locations. It is commonly used in AR gaming, as seen in the popular game Pokémon Go, which relies on location-based AR functionality.

2.5.2 Mixed Reality and Extended Reality

In recent years, there has been a noticeable surge in interest surrounding extended reality (XR) within the realm of education, encompassing various facets ranging from virtual reality (VR) to augmented reality (AR), and even extending to mixed reality (MR), a term that is occasionally used interchangeably with both AR and XR. VR holds the potential for immersive and interactive learning experiences, deeply embedded within fully digital simulated environments (Lan, 2020a). On the other hand, AR offers similar educational potential, yet within real-world settings overlaid with digital data. In a broader sense, AR signifies the dynamic presentation of contextually relevant information and communication channels within real-world environments. Conversely, a narrower definition refers to the direct superimposition of these digital elements onto our perceptions of the real-world setting. Notably, these broad and

narrow definitions are gradually converging as technology continues to advance (Pegrum, 2021).

It is essential to emphasize that while AR commonly involves the addition of digital data to our perceptions, it also has the capability to digitally conceal real-world data from our senses, and intriguingly, it can simultaneously perform both functions (Wen et al., 2023). The immersiveness and directness of XR interfaces are contingent on the hardware utilized; currently, experiences may range from less immersive encounters, such as those on smartphone screens, to highly immersive experiences, such as those facilitated through headsets. There appears to be a discernible trend towards achieving greater levels of immersiveness and direct interaction. Moreover, contemporary dialogues surrounding XR may ultimately converge with proposals within the technology industry, envisioning a global metaverse. In short, the evolving landscape of XR technologies, encompassing VR, AR, and MR, presents an intriguing trajectory for the future of education. As these technologies continue to advance, educators and researchers alike must remain cognizant of the nuanced definitions and possibilities that each variant offers within the educational sphere, ensuring that they are well informed and equipped to harness the full potential of XR in enhancing learning experiences.

In recent years, substantial evidence has surfaced highlighting the educational potential of Virtual Reality (VR) and Augmented Reality (AR) in the realm of language learning (Alfadil, 2020; Lan, 2020b; Lan et al., 2015; Li & Lan, 2022; Chang et al., 2022; Parmaxi & Demetriou, 2020). Research indicates that immersive VR environments, especially those fostering social interaction, play a pivotal role in enhancing learning outcomes (Li & Lan, 2022). Similarly, AR technology has demonstrated its language learning efficacy, particularly through AR language learning trails rooted in digitally supported real-world scenarios (Pegrum, 2019a, 2019b). However, the impact of Extended Reality (XR), encompassing both VR and AR, on language learning varies across different aspects, necessitating a comprehensive investigation into the specific content and tasks conducive to XR approaches and identifying the learners who benefit most (Reinders et al., 2015; Wang, 2017; Wang et al., 2020; Wen et al., 2023). Scholars have emphasized the need for further research in this area, emphasizing the importance of understanding the nuanced ways in which XR technology affects language learning (Buchner & Kerres, 2023; Hockly, 2019; Lan, 2020a).

One compelling area of exploration involves the application of XR technology to cater to learners with special educational needs, addressing their unique

requirements and enhancing their language learning experiences (Lan, 2020b; Lan et al., 2018; Lan et al., 2023). Additionally, scholars have delved into the realm of students' active involvement in creating XR content or contexts, empowering them with agency and autonomy, thereby supporting their own learning as well as that of their peers (Pegrum, 2019b; Yeh & Lan, 2018; Yeh et al., 2018). Examining the XR spectrum, it becomes apparent that VR holds the potential to support telecollaboration, Collaborative Online International Learning (COIL), and Virtual Exchange (VE) initiatives. VR facilitates meaningful communication in second language acquisition by integrating embodied language communication, enriching digital storytelling exchanges, and fostering intercultural awareness and empathy among diverse individuals (Chen & Sevilla-Pavón, 2023). Particularly noteworthy is VR's practical advantage in remote teaching scenarios, such as during the COVID-19 pandemic, where it provides an immersive alternative to conventional teaching methods (Kukulska-Hulme, 2021).

On the other hand, AR technology proves invaluable in leveraging the linguistic diversity present in urban landscapes, where multiple languages and dialects coexist. By focusing students' attention on key information, AR effectively utilizes the richness of everyday environments, promoting language learning within real-world contexts. However, it is essential to acknowledge that AR might also pose challenges, such as narrowing students' focus and potentially overlooking real-world distractions. A common thread across the entire XR spectrum lies in the complexity introduced by 3-dimensional multimodal immersive texts. These complexities necessitate the development of new literacies, particularly XR literacy, as students engage in the creation, interpretation, and exchange of meanings within these immersive environments (Pegrum et al., 2022). Consequently, understanding these intricacies is fundamental to harnessing the full potential of XR technology in language education. Further research in this domain is imperative to unlock the myriad possibilities XR offers, shaping the future landscape of language learning and pedagogy.

2.5.3 AR in Language Education

2.5.3.1 Augmented Reality (AR)-based Designs

AR-based designs are increasingly being used in language education to provide an immersive learning environment. This literature review discussed the various aspects of this rapidly evolving technology and how it has been used to enhance language learning. The use of AR in language education is a relatively new phenomenon. Studies have shown that AR-based language learning activities can be effective in developing language proficiency and improving student engagement (Kim

& Lee, 2018). AR has been used to provide contextualized learning experiences, with students interacting with virtual objects and characters in a simulated environment (Kim, 2018). This allows students to gain a greater understanding of the language and its culture. In addition to providing a more immersive learning experience, AR-based designs also have the potential to improve language learning outcomes. Studies have suggested that the use of AR can increase student engagement and motivation, as well as enhance their learning experiences (Fang & Zhao, 2020). Additionally, AR-based language learning activities may provide a more meaningful learning experience, as students can interact with virtual objects and characters in a more natural way (Kim, 2018). Furthermore, AR-based language learning activities can be tailored to the individual learner's needs. This can help ensure that the learner is receiving the most relevant and effective instruction (Kim & Lee, 2018). Additionally, AR-based language learning activities can be adapted to meet the needs of different types of learners (Kim, 2018). Finally, AR-based designs can be used to create a more engaging learning environment. For example, AR can be used to create virtual field trips, allowing learners to explore a foreign city and its culture in a simulated environment (Kim & Lee, 2018). Additionally, AR-based language learning activities can be used to gamify the learning process, making it more enjoyable for students (Fang & Zhao, 2020). In conclusion, AR-based language learning activities can provide an immersive and engaging learning experience as well as improve language learning outcomes. AR-based designs can be tailored to the individual learner's needs and can be used to create virtual field trips and gamified learning experiences. Therefore, AR-based designs have the potential to revolutionize language education and make learning more effective and enjoyable.

AR technology has been gaining traction in language education since its introduction in the early 2000s. AR technology has been used in language education to create interactive learning experiences, enhance students' engagement and motivation, improve language comprehension, and increase student autonomy. This study seeks to synthesize the current research on how AR-based technology can be used to improve language education. Studies have demonstrated that AR-based technology can be used to create innovative and immersive language learning experiences. For example, a study conducted by Hsu et al. (2020) found that using an AR-based mobile application to teach English as a second language (ESL) resulted in greater student engagement and motivation compared to traditional teaching methods. Additionally, the study found that students achieved better language comprehension when using the AR-based mobile application. This finding is supported

by research conducted by El-Sawy et al. (2019), which showed that AR-based language learning applications can be used to help students improve their pronunciation accuracy and fluency. In addition to improving language comprehension, AR-based technology can also be used to increase student autonomy in language learning. Research conducted by El-Sawy (2018) demonstrated that using an AR-based language learning application can help students become more independent in their language learning. The study found that students were able to use the application to practice their language skills without having to rely on the teacher or other students. This finding is supported by research conducted by Chai et al. (2017), which showed that AR-based language learning applications can be used to help students become more autonomous learners. Overall, the research suggests that AR-based technology can be used to create innovative and immersive language learning experiences, enhance student engagement and motivation, improve language comprehension, and increase student autonomy. This technology has the potential to revolutionize language education and enable students to become more independent and engaged language learners. As AR-based language learning applications become more prevalent, further research is needed to understand the most effective ways to use this technology to improve language education.

In 2019, some researchers utilized AR to create a range of language learning experiences for students. For instance, one study used an AR system to enable students to practice speaking English in a simulated 3D environment (Khan et al., 2019). The researchers found that the AR system helped to improve student engagement, increase focus, and enhance their overall motivation to learn. Other studies have applied AR to language learning in a variety of different contexts, such as providing visual feedback for pronunciation practice (Chen et al., 2019) and creating interactive language activities (Huang et al., 2019). The use of AR in language education has been shown to bring several benefits to students. For example, AR-based language learning has been found to improve student motivation, engagement, and learning outcomes (Khan et al., 2019; Chen et al., 2019). AR also provides students with a more immersive and engaging learning experience, as they can interact with 3D objects and environments (Huang et al., 2019). Additionally, AR can provide students with more individualized instruction, as it enables teachers to tailor the learning content to each student's needs (Chen et al., 2019). While AR-based language learning has many potential benefits, it is not without its challenges. For instance, AR systems can be complex to set up, requiring specialized hardware and software (Khan et al., 2019). Additionally, it can be difficult to ensure that the AR content is relevant and engaging

for students (Chen et al., 2019). Finally, there is a lack of research on the long-term effects of AR-based language learning, as most studies have been limited to short-term evaluations (Huang et al., 2019).

AR technologies have been shown to motivate and engage language learners, making the learning experience more interactive and enjoyable. In a study of French language learners in a middle school, it was found that using an AR game increased student motivation and engagement in the language (Morris, 2012). Similarly, an AR language learning app has been developed to improve student engagement and interest in language learning (Bhugra, 2018). This app provides an interactive and immersive environment for users to practice their language skills and has been found to be an effective way to motivate language learners. In addition to motivating students, AR technology has been used to improve language learning outcomes. In a study of learners of English as a foreign language, it was found that using an AR game improved student performance in grammar and vocabulary (Chen, 2017). Similarly, in a study of Spanish language learners, it was found that using an AR game improved student performance in reading comprehension (Gonzalez et al., 2015). Additionally, AR technology has been used to support language learning in the classroom. For example, an AR game has been developed to help students learn Spanish vocabulary words (Kim et al., 2019). This game provides an interactive and engaging way for students to learn and practice their language skills. Finally, AR technology has been used to create immersive language learning experiences. For example, an AR game has been developed to help language learners explore cultural sites and landmarks in a foreign language (Lopez et al., 2018). This game provides an immersive and engaging way for language learners to explore and learn about a foreign culture. Additionally, an AR app has been developed to help language learners learn about the geography and culture of a foreign country (Kharbanda et al., 2017). This app provides an immersive and interactive way for language learners to explore and learn about a foreign country.

In conclusion, AR-based language learning activities exhibit the capacity to elevate student engagement, motivation, and language comprehension, all while nurturing learner autonomy. The adaptability and customization inherent in AR applications are paramount for addressing the individualized needs of diverse learners. Nonetheless, formidable challenges such as intricate technological setups and the imperative for longitudinal investigations persist. To advance within the academic landscape, it is imperative to consider avenues for mitigating these challenges, optimizing the seamless integration of AR into language education, and undertaking

comprehensive longitudinal studies to gauge its enduring impact. By doing so, this present study can contribute substantively to the advancement of a more efficacious and enduring paradigm for language learning.

2.5.3.2 AR Applications for Education

Due to a limited set of characteristics, AR technology is unique among other technical tools. According to Bursali and Yilmaz (2019), "when the barcodes or markers are scanned, virtual images such as videos, 3D objects, or other images combine with real-world data on the pointer." In line with that statement, the first feature that sets AR apart from previous technical tools is the way it connects the virtual and physical worlds. Users can enter a separate universe without leaving their actual, existing environment. As a result, it presents consumers with accurate and real-world situations. Virtual reality (VR) is also well recognized as a tool that allows users to become fully immersed in a virtual 3D world. While both technologies exist on the same continuum, Wang et al. (2017) note that whereas VR devices are totally cut off from the real world and offer a synthetic 3D virtual environment, AR devices overlay digital material over the real world. In addition, it employs real-time training and offers precise 3D registration of both virtual and physical objects (Soo et al., 2019). In other words, as was already indicated, it allows users to simultaneously experience a separate world through 3D information and visualization.

According to Wang (2017), "With the rapid advancement in educational technology, AR applications could be expanded and could work with various learning devices like tablet PCs and mobile phones." It provides people with the opportunity to choose the devices they want to use. There are two types of AR implementations: marker-based AR and markerless AR. According to Lee et al. (2019), marker-based AR applications rely on a reader (often the camera of a mobile device) to scan a certain form of image called a marker (such as a QR code) in order to create virtual 3D objects that are superimposed on top of the camera picture. Because users do not need to rely on the location sensor to interact with the offered material, marker-based AR is frequently employed indoors. In contrast, markerless AR relies on the location sensors of mobile devices, such as GPS position, velocity meter, etc., to construct virtual 3D objects without the need for any marker images (Lee et al., 2019). Because users must wonder about obtaining the material provided by the AR tool, it is thus typically used in the outside environment, such as in the hot trend of the mobile game Pokemon Go in 2016.

By augmenting the physical environment as it is experienced via the senses, AR seeks to give users a better overall experience. AR employs technical

computer programs to produce a mixed reality that coexists with actual and virtual items in the present. When integrated with other cutting-edge technologies, AR can be made even more versatile and engaging (Yeh & Tseng, 2020). Aside from that, AR has had a significant impact on several industries, including education, due to its capacity to engage users with interactive content and alter their perspectives. AR can provide new learning environments and experiences and encourage an active and connected learning process since it mixes the actual world with digital information. Through its 3D model representation and animations, AR can boost memory retention and motivation (Yuen et al., 2011). It is closely related to education, e-learning, gamification, and human-computer interaction. By enhancing and promoting high-quality education wherever and at any time, AR helps remove barriers to formal education (Marc et al., 2016). These facts, along with the technology's increasing acceptance and usefulness for both teaching and learning, have caused an annual rise in the quality and number of studies on AR in classrooms. Recent bibliometric investigations, scientific mapping, and systematic reviews have provided both the advantages that can be obtained when incorporating student-centered AR into educational settings as well as some of its shortcomings and restrictions (Yeh & Tseng, 2020). Through the immersive, engaging, and realistic learning experiences that AR delivers, learning environments that enable and encourage inclusive, collaborative, centralized, autonomous, problem-based, and ubiquitous learning may be designed (Santos et al., 2016).

According to a few scholars, AR may assist students in learning new information and resolving issues (Liu, 2019). It encourages the creation of an atmosphere where collaborative inquiry learning activities may be carried out (Wang et al., 2012). Students can also be interested in the teaching and learning process. Saffar et al.'s (2016) claim that AR may result in greater word memory and enhance students' attention and satisfaction. Kipper (2013) states that AR deviates in certain ways from virtual reality. Users of virtual reality technology are submerged in a synthetic environment and unable to perceive their surroundings while using the device. With AR, digital or computer-generated data like sound, visuals, and haptic awareness are superimposed on the physical world. According to Kipper (2013), one of AR's capabilities is that it can be used to enhance all the senses of the human body, but its commercial application is in graphics and visual representation. The distinction between AR and virtual reality is that the former enables the technology user to view the real environment while simultaneously including augmented and virtual things that are presented alongside it. As a result, AR simply serves to reinforce reality in those situations, rather than entirely replacing it.

Immersive AR environments can provide more interactive experiences than conventional learning settings while using fewer resources, money, and time. Leblanc et al. (2010) and Martn-Guterrez et al. (2011) find lower long-term costs for AR scenarios than for traditional education. Particularly, Chen and Tsai (2008) draw attention to the cheap cost of hiring employees and the reasonable expenses of constructing and updating the courses. This benefit is acknowledged by Andujar et al. (2011), particularly for virtual laboratories. They continue by saying that AR applications not only cut down on immediate expenditures like supplies, but also on preparation time for lectures. Although AR technology comes with a significant initial expense, this investment is most likely to be profitable in the long run. While one-time acquisition prices were considerable, Leblanc et al. (2010) conclude that the cost per class may be decreased by 93.34%, lowering total expenditures. Students also find the experience more engaging and pleasurable overall, and as a result, they become more inspired and involved in the learning activities. Redondo et al. (2019) found that the benefits of AR outweigh its current drawbacks, allowing it to be incorporated into all stages of education while simultaneously supporting teachers and students. It also facilitates the elimination of barriers to formal education and enhances and promotes high-quality education everywhere. According to Rafiq & Hashim (2018), AR applications can increase students' English language proficiency while also enhancing the 21st century abilities such as teamwork, communication, critical thinking, and problem-solving. Hence, using AR in learning may significantly facilitate and enhance the process of gaining new knowledge. Although it can aid in preparing future professionals for the impending technology era by offering the right and necessary training, it is essential to use the appropriate pedagogical approaches (suitable for each situation) in order to fully profit from AR's educational potential. According to Vate-U-Lan (2012), AR can be included in a variety of academic courses because it is an interactive technology that is closely connected to the actual world and is continually maturing.

Incorporating insights from this literature, this current thesis underscores AR’s distinctive capacity to seamlessly merge the real and virtual worlds, offering a flexible, device-agnostic approach. Marker-based and Markerless AR distinctions inform deployment choices. AR's potential lies in creating immersive, engaging, and cost-effective language learning experiences, fostering collaborative inquiry, and enhancing 21st-century skills. This study underscores AR's potential to revolutionize ELT in Vietnam, enriching language proficiency and modern skillsets while guiding pedagogical approaches for impactful, inclusive, and technologically-informed education.

2.5.3.3 Mobile AR-based Tasks and Assignments for Language Education

Since mobile learning has become increasingly popular over the past ten years, the number of AR applications for education has dramatically expanded, and they are now mostly utilized with mobile devices (Emirolu & Kurt, 2018). Numerous studies have been done to examine how AR can be utilized to enhance learning in specific areas of English language acquisition. Vocabulary development is one area of English language acquisition that has received attention. The study conducted by Solak and Cakir (2015) aimed to investigate the effects of materials designed with AR on the vocabulary learning of undergraduate students who were at the beginner English language level. The study found that students found it challenging to acquire new vocabulary due to a lack of appropriate language learning materials that were tailored to their level. The study's AR materials, which included animation and music to make the content more engaging for the learners, were developed to suggest new language vocabulary words to students at the primary level. The findings demonstrated that students were enthusiastic about learning new words, and this enthusiasm was favorably connected with their academic success.

In a different study by Liu (2009), AR software was used to create the Handheld English Language Learning Organization (HELLO), an environment for learning English that integrated sensors and ubiquitous computing to make it easier for seventh-grade students to listen to and speak the language. To promote learning, various zones (or places) of the school, including the lab and the stationery store, were covered in learning games. According to the study's findings, students were less anxious when practicing their speaking since they felt more comfortable speaking to the VLT's software than to a real person. As a result, the students could learn more effectively while also feeling content and enjoying the exercise.

To improve students' learning experiences, Tobar-Munoz, Baldiris, and Fabregat (2017) conducted a study on reading comprehension in which they combined game-based learning with AR to create an improved 3D book. For this activity, up to 51 third through sixth graders used tablets in pairs. Following their reading of several passages from a book in which an AR app superimposed virtual imagery to draw attention to specific passages, they were required to answer reading comprehension questions. This study found that students enjoyed reading more than they would have if they had only read from a book. In contrast to the control group, which read the book without using AR, students produced more informed, robust, and lengthy responses to "opinion-based" comprehension questions.

These findings showed evidence that AR holds immense promise for transforming pedagogical practices, particularly in areas such as vocabulary development and reading comprehension. By exploring the implications of AR technology on students' happiness and speaking skills within this specific context, the thesis can contribute to a more comprehensive understanding of how AR can be effectively integrated into English language education, ultimately enriching the pedagogical landscape in Vietnam and beyond.

2.5.3.4 AR Technology in Language Teaching in Vietnam

There were only a few research articles about AR technology in language teaching in Vietnam because the integration of technology in education is still relatively new and evolving in the country. Vietnam has been making efforts to enhance its education system through the adoption of innovative teaching methods, but the focus has mainly been on traditional approaches rather than incorporating emerging technologies like AR. Additionally, the limited access to advanced technology infrastructure and the lack of awareness and training among educators about the potential benefits of AR in language teaching have hindered its widespread implementation. Furthermore, financial constraints and limited funding for research initiatives have also contributed to the scarcity of research articles on this specific topic. However, as technology continues to advance and educational institutions recognize the potential of AR in enhancing language learning experiences, it is expected that more research articles would emerge, providing valuable insights and guidance for the effective integration of AR technology in language teaching in Vietnam. The following articles were found and summarized:

The study by Vo and Pham (2021), titled "Using Technology to Teach Speaking Skills Online During the COVID-19 Outbreak in Vietnam-Facts and Recommendations," highlights the results of a study conducted at the University of Foreign Language Studies, University of Danang, Vietnam. The participants were five university instructors between the ages of 35 and 48. The purpose of this qualitative study is to investigate teachers' concerns and obstacles regarding the use of technology in the online teaching of speaking skills to students. Activity Theory (AT) was used to analyze data collected from reflection notes and interviews. The authors found that the teachers faced a variety of issues and challenges when using technology to teach speaking skills online, such as lack of training, technical problems, low student engagement, time management, etc. They also provided some recommendations for improving the situation, such as enhancing teacher training, providing technical support, and designing interactive activities.

Lai Phuong, L. et al. (2021), in their paper “Application of Virtual Reality and Augmented Reality Technology for Teaching English at University Level” present some applications of VR/AR technology for teaching English at the university level in Vietnam. The authors introduce some VR/AR applications that can be used for teaching vocabulary, grammar, listening, speaking, reading, and writing skills. They also discuss some advantages and disadvantages of using VR/AR technology for teaching English. The authors introduced some applications of VR/AR technology for teaching different English skills at the university level in Vietnam, such as VRChat, Google Expeditions, Mondly AR, etc. They also discussed some advantages and disadvantages of using VR/AR technology for teaching English, such as increasing motivation, immersion, interactivity, etc., but also requiring high-cost devices, internet connection, and technical skills.

Vo et al. (2020), in an article named “Evaluating Vietnam’s Pre-service English Teacher Education Program for Technology Integration in Education,” evaluate the pre-service English teacher education program for technology integration in education in Vietnam. The authors use a mixed methods approach to collect data from 120 pre-service teachers and 10 teacher educators. They use the TPACK framework to measure the pre-service teachers’ knowledge and skills in technology integration. They also examine the challenges and opportunities for improving the program. The authors evaluated the pre-service English teacher education program for technology integration in education in Vietnam using the TPACK framework and surveys. They found that the pre-service teachers lacked practical knowledge and skills in technology integration and faced some challenges such as a lack of resources, guidance, feedback, etc. They also suggested some ways to improve the program, such as revising the curriculum and providing more opportunities for practice and reflection.

Diem et al. (2023), in their latest research paper “Exploring the Potential of VR in Enhancing Authentic Learning for EFL Tertiary Students in Vietnam”, investigated the possibilities offered by virtual reality (VR) when combined with language tasks to promote genuine learning experiences for English as a Foreign Language (EFL) learners. The study utilized Herrington et al.'s (2010) authentic task model as a framework to assess the effectiveness of VR-integrated tasks. A total of twenty-four students participated in the VR technology intervention and were subsequently interviewed individually. The findings revealed that VR can enhance various aspects of the ten attributes outlined in Herrington et al.'s (2010) authentic task model. Additionally, recommendations are provided to expand the applicability of the

model in EFL contexts, and the study discusses the practical implications and future research opportunities arising from these findings.

Challenges in technology integration are apparent, both in pre-service teacher education and current instructional practices. Educators encounter impediments such as insufficient training, technical impediments, and difficulties related to student engagement and time management. These challenges underscore the critical need for comprehensive teacher training and ongoing support to harness the full potential of technology effectively. On the other hand, the advantages of VR and AR technology in ELT are conspicuous. These innovative tools demonstrate promise in elevating motivation levels, creating immersive learning environments, and facilitating interactive educational experiences. This potential is especially pronounced when aligned with authentic task models, illustrating the capacity of technology to enhance various facets of language learning. The recommendations presented by the reviewed studies offer a strategic path for overcoming these challenges and maximizing the benefits of technology integration. These recommendations encompass revising curriculum structures, providing increased opportunities for practice and reflection, and extending technical support to educators. This dynamic landscape of challenges and opportunities underscores the evolving nature of technology integration in ELT, particularly in the context of Vietnam. As technology continues to advance and educators gain a deeper understanding of its potential, it is anticipated that further research and implementation would pave the way for a more effective and engaging language learning environment in Vietnam.

2.6 Immersive Learning

Immersive learning has emerged as a powerful approach in the field of language teaching and learning, offering learners dynamic and authentic experiences that go beyond traditional classroom settings. By immersing learners in realistic and engaging language contexts, immersive learning aims to create an environment where learners actively engage with the target language, culture, and real-world scenarios. Immersive learning can be defined as an approach that seeks to replicate real-life experiences and create a sense of presence, enabling learners to interact with language and culture in meaningful and contextualized ways. By simulating authentic situations and providing opportunities for active participation, immersive learning aims to enhance language acquisition, cultural understanding, and learner engagement. Theoretical foundations play a crucial role in understanding the principles that underpin immersive learning. Constructivist theories, such as Vygotsky's Zone of Proximal Development and

Piaget's theory of cognitive development, highlight the importance of active learning, social interaction, and context in knowledge construction. Immersive learning aligns with these theories by providing learners with hands-on experiences and social interactions that facilitate language and cultural learning. In language teaching and learning, immersive learning approaches align with communicative language teaching (CLT), which emphasizes the importance of using language for meaningful communication. Immersive learning complements CLT by providing learners with authentic and interactive language contexts, allowing them to practice language skills and develop communicative competence. The significance of immersive learning in language teaching and learning is multifaceted. Firstly, it creates an environment that promotes language acquisition by exposing learners to authentic language input and opportunities for language production. Learners are immersed in situations that require active language use, enabling them to develop fluency, accuracy, and communicative competence. Secondly, immersive learning enhances cultural understanding and intercultural competence. By immersing learners in culturally authentic scenarios, such as virtual cultural experiences or language exchanges, learners gain insights into cultural norms, values, and practices. This promotes empathy, appreciation for diversity, and the ability to navigate intercultural interactions. Thirdly, immersive learning fosters learner engagement and motivation. The interactive and experiential nature of immersive learning captivates learners' attention and sparks their curiosity. Learners become active participants in their own learning, leading to increased motivation and a sense of ownership over their language learning journey. In conclusion, immersive learning offers a promising approach in language teaching and learning, providing learners with authentic, engaging, and interactive language experiences. By immersing learners in realistic contexts, immersive learning enhances language acquisition, cultural understanding, and learner engagement.

Immersive learning technologies offer innovative and engaging approaches to language teaching and learning, providing learners with interactive and immersive experiences. Three prominent immersive learning technologies in language education are virtual reality (VR), augmented reality (AR), and simulations. Virtual Reality (VR) creates a computer-generated environment that simulates real or imagined scenarios, transporting learners to virtual worlds. In language learning, VR offers opportunities for learners to practice language skills in authentic and immersive contexts. Learners can engage in virtual language exchanges with native speakers, explore virtual cultural environments, or participate in simulated real-life scenarios to enhance their language proficiency and cultural understanding. The immersive nature of VR promotes a sense

of presence and creates a safe space for learners to experiment with language use and develop their communicative competence. AR overlays digital content onto the real world, enriching the learners' perception and interaction with their surroundings. In language learning, AR can provide real-time language support, object labeling, and interactive exercises. Learners can use AR applications on their mobile devices to scan objects, signs, or texts and receive instant translations, pronunciation guidance, or contextual information. AR also enables learners to engage in interactive language tasks and games, fostering engagement and motivation in the language learning process. The contextualized and interactive nature of AR enhances vocabulary acquisition, cultural understanding, and communication skills. Simulations offer virtual or simulated environments that replicate real-world scenarios, allowing learners to practice language skills and problem-solving in context. Language simulations can range from virtual business meetings, role-plays, or simulated travel experiences. Through simulations, learners can engage in authentic language use, make decisions, and experience the consequences of their actions in a controlled and supportive environment. Simulations promote active learning, critical thinking, and communication skills, enabling learners to apply language knowledge and strategies in practical and meaningful ways.

Incorporating immersive learning technologies into language education provides unique opportunities for learners to engage in authentic and contextualized language experiences. These technologies offer interactive and dynamic learning environments that enhance language acquisition, cultural understanding, and learner engagement. By leveraging the benefits of VR, AR, and simulations, language educators can create immersive language learning experiences that foster communicative competence, intercultural awareness, and motivation among learners. The experience of being fully present in a computer-generated environment is known as immersion. Today, we refer to these universes as virtual environments (VE) and virtual reality (VR). Similar to the social virtual world of Second Life, VE enables users to completely interact with a 3D environment that has been digitally produced. This experience does not require special glasses or head-mounted displays (HMD), unlike virtual reality (VR) (de Freitas, Rebolledo-Mendez, Liarokapis, Magoulas, & Poulovassilis, 2010). The ability to create a virtual self (= Avatar), engage socially, and have control over one's own conduct all contribute to the impression of being fully present in these environments. Slater and Wilbur (1997) use the term "presence" to describe the subjective psychological sensation of being in a virtual world if the virtual world is not solely regarded as an objective virtual illusion. The experience of presence may be produced via VR, as Slater

et al. (2006) showed. The authors conducted a Milgram Experiment replication and discovered compelling evidence that the subjects took the therapy seriously. With these results, a window may have opened for more social studies that are not practical in real life because of ethical or other issues. Other research (Dede, 2009; Riva et al., 2007; Shin, 2018) connected virtual reality to feelings, empathy, and learning. According to preliminary research (Krokos, Plaisant, & Varshney, 2018), those who learn via virtual reality have superior memory retention than those who do not (information recall). The benefits of immersive learning are so real and have been put to use in a variety of fields. VR glasses for schools are currently out of reach due to their expensive price tags, as already mentioned. The availability of recently created technology and apps on all mobile devices is a solution. Now that mobile VR is feasible, teachers may employ it in their courses (Cochrane, 2016). When used properly, 360-degree videos, which are employed by many of these apps, may likewise produce the immersive sense (Aitamurto et al., 2018).

Mobile immersive learning is now possible thanks to mobile devices and immersive learning environments. Teachers can introduce far-off or even unreachable locations as genuine real-world experiences in the classroom. There are no restrictions on how much the classroom may grow, either geographically or chronologically. Photo stories, video documentations, or multimedia presentations may now be created using both the local surroundings and the destinations visited, in contrast to the seamless learning strategy (Looi et al., 2010). If the pyramids' theme is used, students may mentally travel there and use the picture feature to capture the local fauna and environment. Time also abruptly takes on a deciding role. Virtual time travel makes it possible to truly experience historical and political events, which then allows for alternative reflection and discussion. Mobile immersive learning makes it feasible for social learning and trade. It could be possible to interact with other students, question the lecturer, and participate in the conversation when attending a virtual lecture at Oxford University, for instance.

Immersive learning technologies have been shown in studies to improve engagement (Hao & Lee, 2019), learning motivation (Taskiran, 2019), and academic achievement (Chen & Chan, 2019; Urun et al., 2017). In addition, they engage students' interest (Jee, 2014), foster social skills (Wu, 2019), lessen anxiety (Hsu, 2017), encourage experiential learning (Knutzen & Kennedy, 2012), and provide learner-centered learning settings (Hong et al., 2014; Hsu, 2019). The integration of immersive learning technologies is on the rise due to the recent advancements in mobile technologies and the increasing number of mobile device users (Akçayır & Akçayır, 2017; Statista,

2020). These technologies have gained significant attention in the field of education and are being studied to determine their impact on learning outcomes, particularly among university students (Bacca et al., 2014; Kavanagh et al., 2017; Turan & Akdag-Cimen, 2019). One reason for their popularity is their easy accessibility (Turan & Akdag-Cimen, 2019). Immersive learning technologies are particularly beneficial in creating an authentic learning environment for English as a Foreign Language (EFL) learners to practice their speaking skills (Taskiran, 2019). They offer a stress-free learning experience (Küçük, Yılmaz, & Göktaş, 2014) and support contextualized learning (Lee & Park, 2019) as well as situated learning (Hsu, 2017).

AR may be a more convenient option for accessing and implementing immersive learning technologies, primarily because smartphones can easily support AR technology (Martin et al., 2011). Furthermore, mobile devices are portable and user-friendly compared to cumbersome headsets or computers (Johnson et al., 2010). The use of immersive learning technologies in English Language Teaching (ELT) offers various advantages. These include increased motivation (Bacca et al., 2014; Kavanagh et al., 2017; Quintero et al., 2019), enhanced attention-grabbing capabilities (Chen & Chan, 2019), enjoyment and entertainment (Lantavou & Fesakis, 2018), reduced anxiety and improved confidence (Taskiran, 2019), better learning outcomes (Akçayır & Akçayır, 2017; Bacca et al., 2014), and support for personalized learning (Bacca et al., 2014; Kavanagh et al., 2017), among other benefits. However, there are also challenges associated with these technologies, such as technical issues or problems related to internet connectivity (Akçayır & Akçayır, 2017; Quintero et al., 2019; Yung & Khoo-Lattimore, 2019).

In conclusion, the incorporation of immersive learning technologies, particularly AR, in English language education has proven to be highly beneficial. Through extensive research and experimentation, it has been established that AR-based learning materials have the potential to enhance motivation, capture learners' attention, provide enjoyment and entertainment, reduce anxiety, increase confidence, improve learning achievement, and facilitate individualized learning experiences. These advantages highlight the immense potential of immersive learning to transform the landscape of English language teaching. However, it is important to acknowledge the existence of challenges, such as technical issues and internet-related problems, that need to be addressed in order to ensure smooth implementation and widespread accessibility. Overall, the integration of immersive learning in AR-based English language learning material design projects holds great promise for creating engaging and effective learning experiences that cater to the diverse needs and preferences of learners.

2.7 Related Studies on Applying AR Technology in English Language Teaching

In language education, AR technology has been harnessed as a pedagogical tool to enhance student learning experiences. Researchers such as Reinders, Lakarnchua, and Pegrum (2015) have explored its application in facilitating students' creation of interactive campus tours in Chulalongkorn University. The incorporation of AR technology in these contexts not only exemplifies innovative instructional methods but also signifies a paradigm shift in language education, offering students immersive and engaging opportunities for learning. Holden and Sykes (2011) conducted a pioneering study centered on the development of a location-based game set in a specific area of Albuquerque in the United States. This innovative game required participants to unravel a historical murder mystery by deciphering local clues, engaging with the surrounding environment, and collaborating with fellow players. Their research indicated that the game gained significant popularity among participants, highlighting their active involvement with the designated locations. Notably, participants displayed a clear preference for activities that necessitated physical exploration of the geographical sites over tasks that transpired off-site. Building upon this foundation, a subsequent study by Liu and Tsai (2013) delved into the realm of immersive educational experiences. In this small-scale study, which involved five participants, students were guided through a concise campus tour where various objects were digitally tagged with pertinent information. This information encompassed details about the objects themselves, as well as relevant vocabulary and expressions. The initial findings of this study were promising, revealing that participants effectively incorporated the acquired vocabulary into their subsequent essays, thereby underscoring the practical application and efficacy of such location-based learning initiatives.

Solak and Cakir (2015) investigated AR's effects on beginner-level undergraduate students, finding that tailored AR materials, enriched with animation and music, enhanced vocabulary acquisition and student enthusiasm, correlating positively with academic success. Liu (2009) implemented augmented reality software in the Handheld English Language Learning Organization (HELLO) for seventh graders, creating a comfortable environment for language practice, resulting in effective learning and reduced anxiety. Tobar-Munoz, Baldiris, and Fabregat (2017) combined game-based learning with AR to enhance reading comprehension among third to sixth graders, leading to increased enjoyment, deeper understanding, and more elaborate responses compared to traditional reading methods. These studies underscore AR's potential in

transforming pedagogical practices, specifically in vocabulary development and reading comprehension.

Lai Phuong et al. (2021) explored applications of VR and AR for teaching English at the university level, emphasizing benefits like motivation and interactivity alongside challenges such as high costs and technical requirements. Vo et al. (2020) evaluated Vietnam's pre-service English teacher education program, revealing deficiencies in technology integration skills and suggesting curriculum revisions and more practical experiences. Diem et al. (2023) investigated VR's potential in enhancing authentic learning for EFL learners, emphasizing the alignment with authentic task models and offering recommendations for future research and application. These studies collectively emphasize the urgent need for comprehensive teacher training, revised curricula, and ongoing support to effectively integrate AR and VR technologies into language education, thereby maximizing their benefits for students in Vietnam. As technology advances and educators gain expertise, further research and implementation are expected to create a more engaging language learning environment in Vietnam, addressing the challenges posed by the evolving landscape of educational technology integration.

In the paper titled "Restructuring Multimodal Corrective Feedback Through Augmented Reality (AR)-enabled Videoconferencing in L2 Pronunciation Teaching," Wen, Li, Xu, and Hu (2023) explore the development of a multimodal corrective feedback model aimed at enhancing pronunciation skills in second language learners. The study delves into the integration of Augmented Reality (AR) annotations and filters within the instructional framework. Drawing inspiration from established principles of multimedia design (Mayer & Fiorella, 2022), the authors designed a model that incorporated AR technology to facilitate the learning process. The primary objective of the research was to create a feedback system that effectively captured and compared learners' articulations of target sounds with videos demonstrating native speaker articulations. To optimize the learning experience, AR filters were employed to minimize extraneous cognitive load. These filters concealed non-essential facial movements, ensuring that learners could concentrate on crucial aspects of pronunciation. Additionally, AR annotations were strategically utilized to direct learners' attention toward essential movements, enhancing their focus during the learning process. The study conducted a comparative analysis between an experimental group comprising university-level Chinese learners of English and a control group engaged in offline multimedia corrective feedback classes. The focus of the assessment was the English dark /ɬ/ consonant, known to be challenging for

Mandarin speakers. The results revealed a significant improvement in the experimental group's ability to produce the English dark /ɬ/ consonant. This improvement was attributed to the effective use of AR technology, which reduced unnecessary information and streamlined the learning experience. The authors aptly noted that AR, by subtracting irrelevant information, proved to be a valuable addition to second language learning, aligning with the findings of the study (Wen et al., 2023, p. 99). However, it is crucial to acknowledge that the study also highlighted the limitations of AR technology in language learning. While the experimental group excelled in the production of specific phonemes, the control group demonstrated enhanced auditory identification skills related to different phonetic elements, such as the dental fricatives /ð/ and /θ/. This disparity in outcomes emphasized the importance of selecting appropriate teaching methods tailored to specific language learning tasks. The findings indicated that AR technology might not universally cater to all language learning objectives and underscored the necessity of considering diverse teaching modes for comprehensive language education. Despite encountering some technical challenges and other issues, the student feedback regarding the AR model was largely positive. Learners reported that the AR technology significantly contributed to their learning experience by enhancing focus and improving the overall efficiency of their language acquisition process. By integrating AR annotations and filters, the research successfully demonstrated their effectiveness in facilitating pronunciation learning. However, the study also emphasized the need for a nuanced approach, recognizing that different teaching modes are suitable for different language learning tasks. This research contributes valuable insights to the field of language education, highlighting the importance of thoughtful integration of technology to optimize learning outcomes.

Recent research continues to underscore the transformative potential of AR in English language teaching. For instance, a study by Belda-Medina and Marrahi-Gomez (2024) demonstrated that integrating AR into Content and Language Integrated Learning (CLIL) settings significantly enhanced vocabulary acquisition and student motivation among secondary education students. Similarly, a systematic literature review by Lau and Aziz (2025) highlighted AR's effectiveness in creating authentic language learning environments, thereby improving ESL learners' engagement and learning outcomes. In the Vietnamese context, Ngo and Vo (2025) emphasized AR's capacity to cater to diverse learning styles, promoting inclusivity and personalized learning experiences in ELT. Moreover, a study by Wang et al. (2025) explored the integration of AR filters in pronunciation teaching, revealing that such tools can effectively enhance learners' speaking fluency and confidence. These studies collectively affirm AR's role in enriching

language education by fostering immersive, interactive, and learner-centered environments.

This current study leveraged the insights from existing research to design AR-based learning activities that are immersive and contextually relevant, specifically tailored to real-world scenarios in the tourism and hospitality industry. This involved creating location-based AR simulations where students can practice language skills in authentic settings, such as interacting with virtual tourists or navigating digital recreations of tourist attractions. The goal was to enhance the practical application of language skills, aligning with methodologies demonstrated in prior studies. To ensure these AR activities are effective, they were designed to minimize cognitive load and reduce anxiety, fostering a supportive and engaging learning environment. This was achieved through the integration of multimedia elements and the provision of immediate, context-specific feedback, as highlighted by Wen et al. (2023). Additionally, collaborative tasks were embedded within the AR activities to encourage peer interaction and knowledge sharing, reflecting the social learning aspects emphasized in connectivist theory. By implementing these principles and strategies, the study aimed to develop a dynamic and effective language learning environment that capitalizes on the unique capabilities of AR technology. This approach not only aligned with the findings of previous research but also establishes a robust framework for enhancing language education in Vietnam, particularly within the context of English for Tourism and Hospitality.

2.8 Assessment of Readiness and Willingness of EFL Students to Adopt Technology

The assessment of readiness and willingness to adopt technology in EFL contexts is often grounded in various theoretical frameworks. The Technology Acceptance Model (TAM), proposed by Davis (1989), is widely adopted for understanding users' acceptance of technology. TAM posits that perceived ease of use and perceived usefulness are primary determinants of individuals' willingness to use technology. Further, the Unified Theory of Acceptance and Use of Technology (UTAUT) extends TAM by incorporating factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003). Readiness to adopt technology encompasses several dimensions, including technological proficiency, psychological readiness, and institutional support. Studies have utilized a variety of instruments to gauge these dimensions. For instance, Parrish (2004) developed a comprehensive readiness assessment tool that measures technological proficiency,

including students' self-reported skills and confidence in using digital tools. Psychological readiness, as explored by Bandura (1997), involves students' attitudes towards technology, their motivation to engage with new tools, and their perceived self-efficacy. Institutional support is another critical factor influencing readiness. Research by Rogers (2003) highlights the role of institutional policies, infrastructure, and access to technological resources in shaping students' readiness. These factors are often assessed through surveys and interviews with students and faculty, providing a holistic understanding of the institutional environment.

Willingness to adopt technology in EFL learning context is closely linked to students' attitudes and perceptions. Empirical studies have frequently employed questionnaires to measure willingness, focusing on aspects such as perceived benefits, perceived ease of use, and intention to use technology. Teo (2011) utilized a modified TAM questionnaire to assess pre-service teachers' willingness to integrate technology, finding that perceived usefulness significantly influenced their willingness. In addition to quantitative measures, qualitative approaches such as focus group discussions and interviews have been instrumental in uncovering deeper insights into students' willingness. For example, Huang et al. (2020) conducted interviews with EFL students to explore their attitudes towards mobile-assisted language learning (MALL). The study revealed that factors such as personal interest, perceived effectiveness, and previous positive experiences with technology were pivotal in shaping students' willingness. Despite the advancements in measuring readiness and willingness, several challenges remain. One significant challenge is the dynamic nature of technology and its continuous evolution, which necessitates the constant updating of assessment tools. Recent studies have extended TAM to include factors such as emotional responses and metacognitive strategies, highlighting their influence on learners' engagement with AI tools in language learning contexts (Yao & Liu, 2025). The Unified Theory of Acceptance and Use of Technology (UTAUT) further expands this understanding by incorporating constructs like performance expectancy, effort expectancy, social influence, and facilitating conditions. For instance, Wang et al. (2024) applied UTAUT to examine EFL learners' acceptance of ChatGPT, revealing that social influence and facilitating conditions significantly impact behavioral intentions. In addition to these models, the Technology Readiness Index (TRI) 2.0 has been utilized to assess students' predispositions toward technology adoption, considering factors such as optimism, innovativeness, discomfort, and insecurity. Zhao et al. (2025) employed TRI 2.0 to investigate EFL students' use of translation technologies, finding that optimism positively influenced behavioral intention and actual usage, while discomfort

negatively impacted behavioral intention. These findings underscore the importance of addressing both positive and negative psychological factors in fostering technology adoption.

Moreover, cultural and contextual differences play a critical role in influencing students' perceptions and acceptance of technology. As such, future research should focus on developing culturally sensitive instruments and exploring the impact of contextual variables on readiness and willingness. Additionally, longitudinal studies are needed to track changes in students' readiness and willingness over time, particularly as they gain more exposure to technological tools in their learning environments. Such studies would provide valuable insights into the long-term effects of technology integration and inform the development of more effective educational interventions. The measurement of EFL students' readiness and willingness to adopt technology is a multifaceted process that requires a comprehensive approach, integrating both quantitative and qualitative methodologies. By leveraging established theoretical frameworks and developing robust assessment tools, educators and researchers can better understand and enhance the integration of technology in EFL instruction. Future research should continue to address the evolving nature of technology and the diverse contexts in which EFL learning occurs, ensuring that assessments remain relevant and effective in promoting technological adoption.

In conclusion, Chapter 2 reaffirms the necessity to address several research gaps in the integration of AR technology in EFL education, particularly within the context of English for Tourism and Hospitality in Vietnam. Despite the potential benefits of AR in enhancing engagement, motivation, and language comprehension, existing studies largely overlook its application in vocational-specific language training. Moreover, the literature is also sufficient on systematic evaluations of Vietnamese students' readiness and willingness to adopt such technologies. There is a significant gap in understanding how AR can be effectively integrated to improve speaking skills, a critical competency for tourism and hospitality professionals. Furthermore, the current body of research lacks comprehensive insights into the synergistic application of AR with pedagogical approaches tailored to diverse learner groups. This study aims to fill these gaps by exploring the experiences, challenges, and outcomes associated with AR-enhanced learning, thereby contributing valuable knowledge to the field of technology-enhanced language education and offering practical implications for future educational practices and technological implementations in similar contexts.