



The Impacts of Blended Learning on English Language Proficiency in Higher  
Education: A Systematic Literature Review

Liu Yang

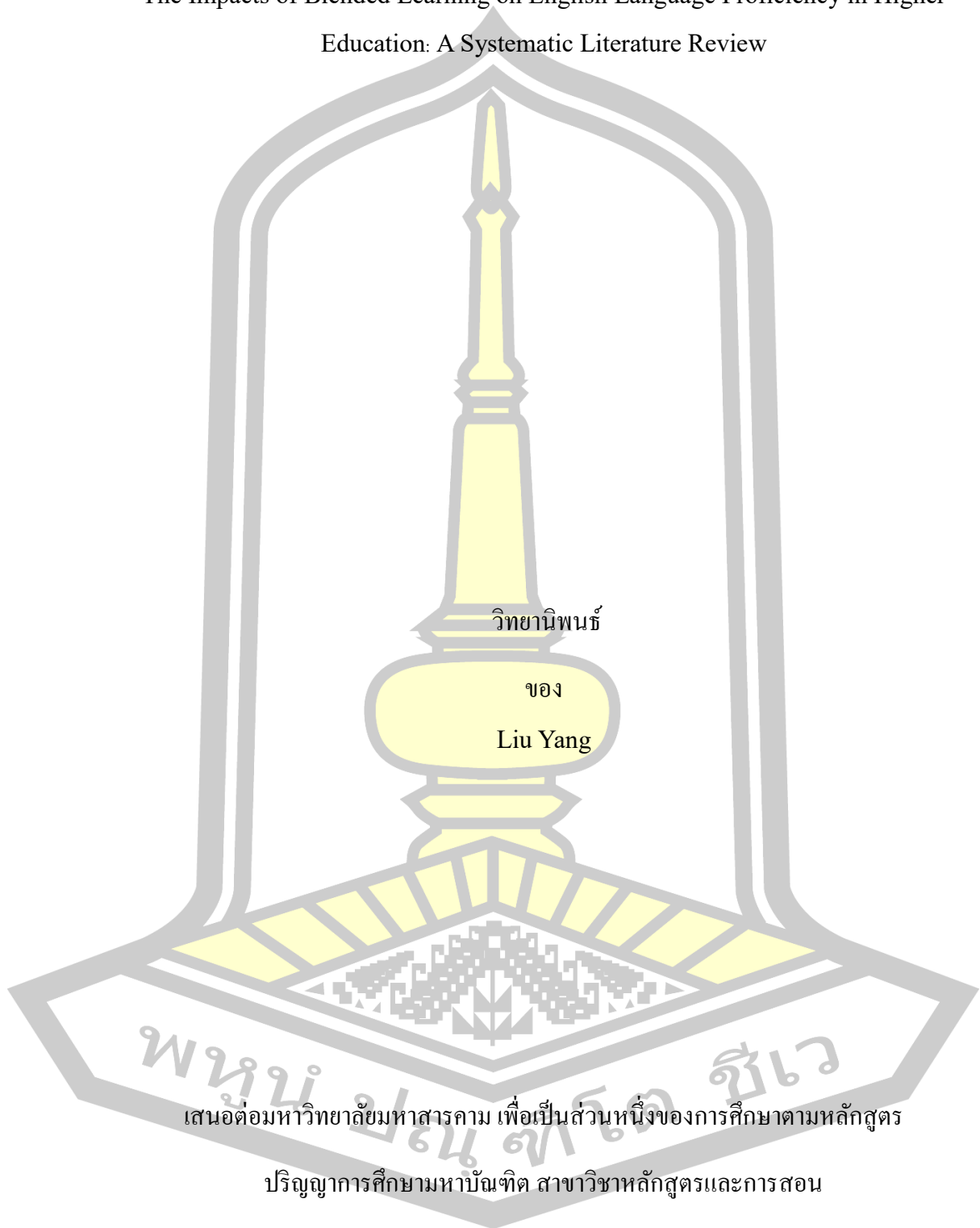
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A Thesis Submitted in Partial Fulfillment of Requirements for  
degree of Master of Education in Curriculum and Instruction

March 2025

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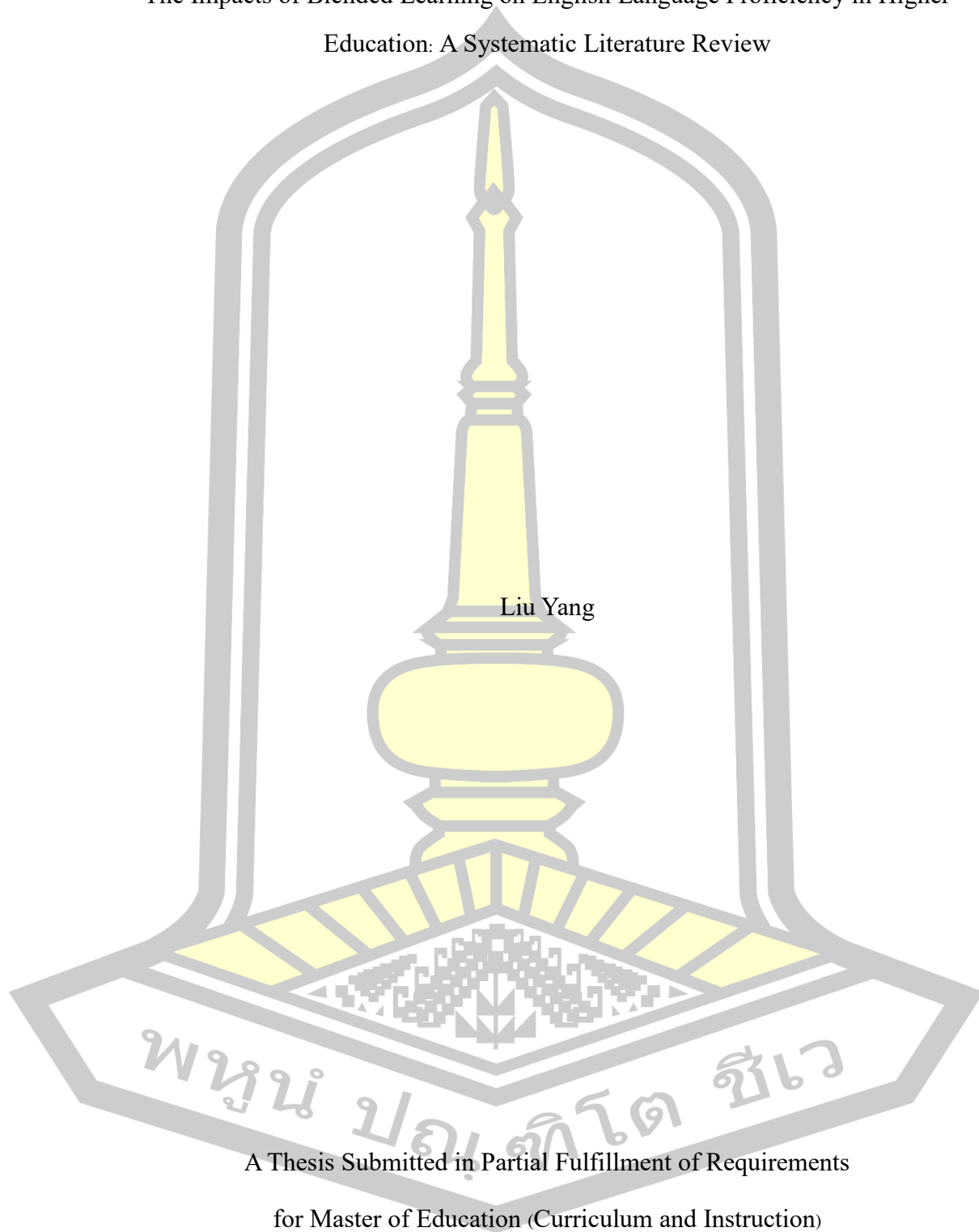


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The examining committee has unanimously approved this Thesis, submitted by Mr. Liu Yang , as a partial fulfillment of the requirements for the Master of Education Curriculum and Instruction at Mahasarakham University

Examining Committee

Chairman

(Asst. Prof. Sampan Thinwiangthong ,  
Ph.D.)

Advisor

(Asst. Prof. Jiraporn Chano , Ed.D.)

Committee

(Asst. Prof. Tatsirin Sawangboon , Ph.D.)

Committee

(Assoc. Prof. Yannapat Seehamongkon ,  
Ed.D.)

Mahasarakham University has granted approval to accept this Thesis as a partial fulfillment of the requirements for the Master of Education Curriculum and Instruction

(Assoc. Prof. Chowwalit Chookhampaeng ,  
Ed.D.)

Dean of The Faculty of Education

(Prof. Anongrit Kangrang , Ph.D.)

Acting Dean of Graduate School

<b>TITLE</b>	The Impacts of Blended Learning on English Language Proficiency in Higher Education: A Systematic Literature Review		
<b>AUTHOR</b>	Liu Yang		
<b>ADVISORS</b>	Assistant Professor Jiraporn Chano , Ed.D.		
<b>DEGREE</b>	Master of Education	<b>MAJOR</b>	Curriculum and Instruction
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### ABSTRACT

Blended learning, as an educational model that integrates traditional classroom teaching with online learning, has gradually become an important method for improving university students' English language proficiency in recent years. As globalization has raised the bar for English proficiency among university students whose first language is not English, studying the impact of blended learning not only has theoretical value, but also provides valuable reference for higher education practice. This study aims to explore the impact of blended learning on university students' English language proficiency (listening, speaking, reading and writing).

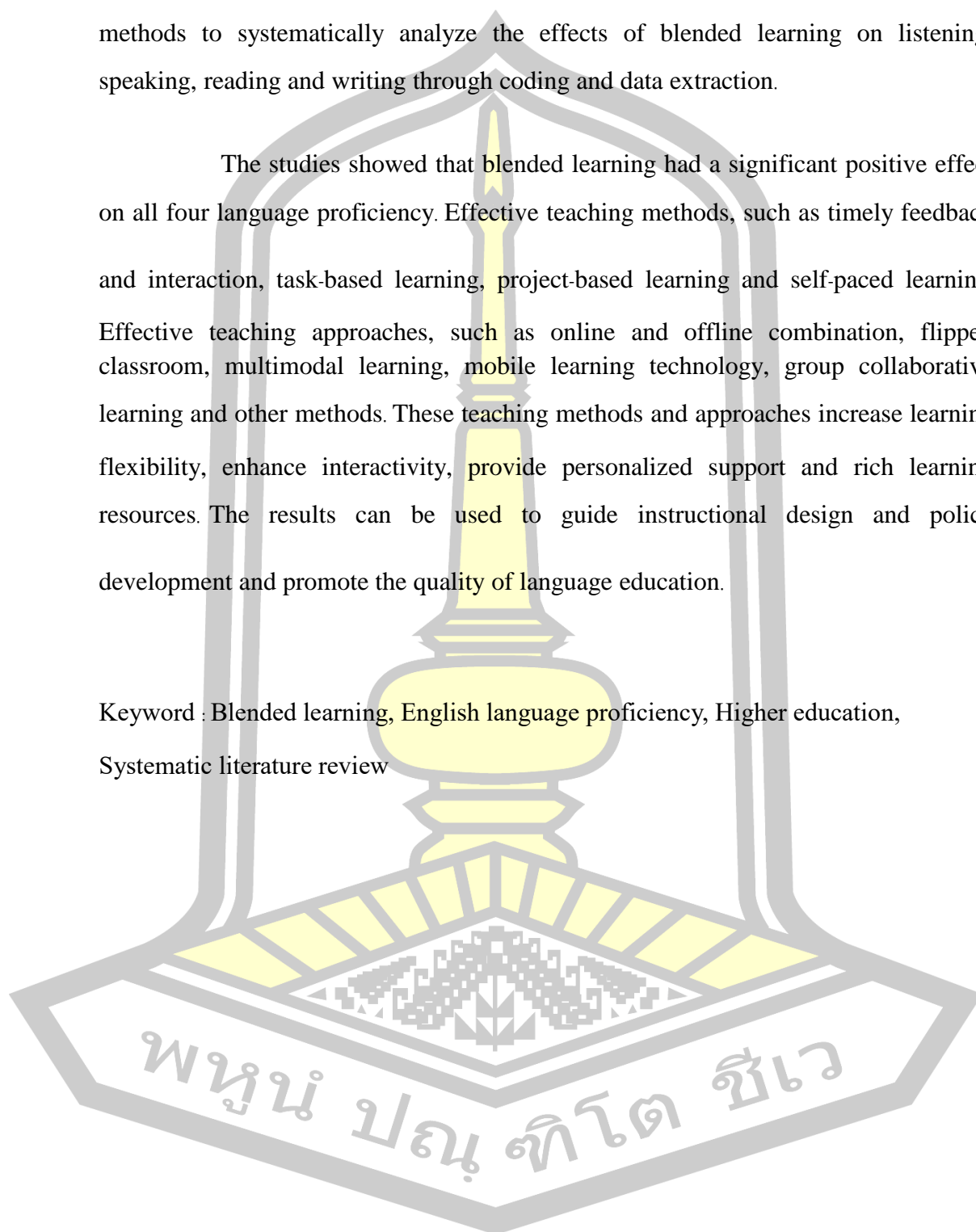
This study used a systematic literature review as a method, adopted the PRISMA 2020 process, and used the PICO framework to determine the research question: What is the impact of blended learning on the English language proficiency (listening, speaking, reading and writing) of higher education students? High-quality literature published between 2020 and 2024 was identified through a search of the Web of Science, Scopus, EBSCOhost and ERIC databases using keywords such as “blended learning”, “English language proficiency” and “university students”.

Ultimately, 52 articles were included in this study after screening and quality assessment of the literature, of which 30 met the quality criteria of the MMAT

assessment tool. These studies used quantitative, qualitative and mixed research methods to systematically analyze the effects of blended learning on listening, speaking, reading and writing through coding and data extraction.

The studies showed that blended learning had a significant positive effect on all four language proficiency. Effective teaching methods, such as timely feedback and interaction, task-based learning, project-based learning and self-paced learning. Effective teaching approaches, such as online and offline combination, flipped classroom, multimodal learning, mobile learning technology, group collaborative learning and other methods. These teaching methods and approaches increase learning flexibility, enhance interactivity, provide personalized support and rich learning resources. The results can be used to guide instructional design and policy development and promote the quality of language education.

Keyword : Blended learning, English language proficiency, Higher education, Systematic literature review



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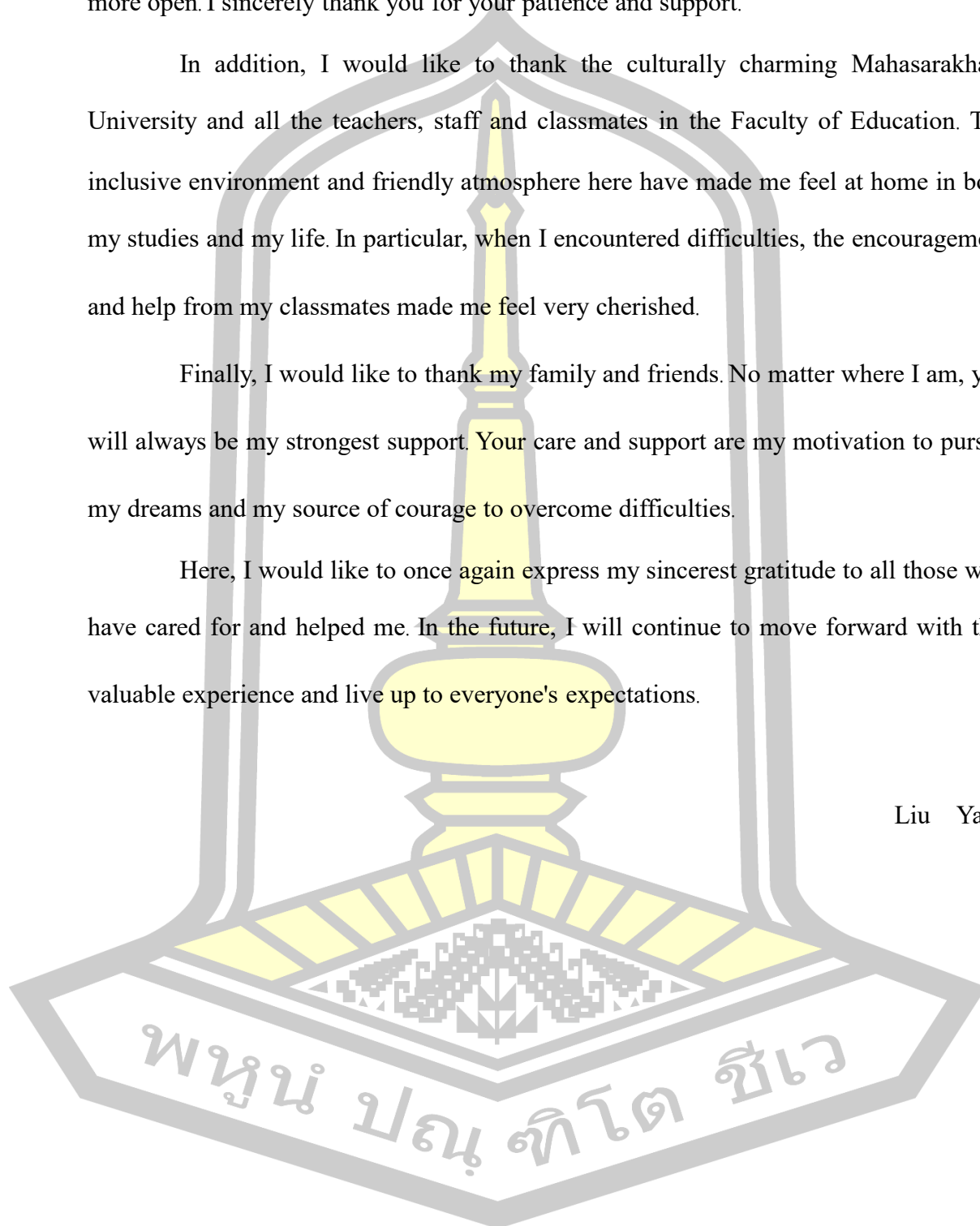
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Liu Yang



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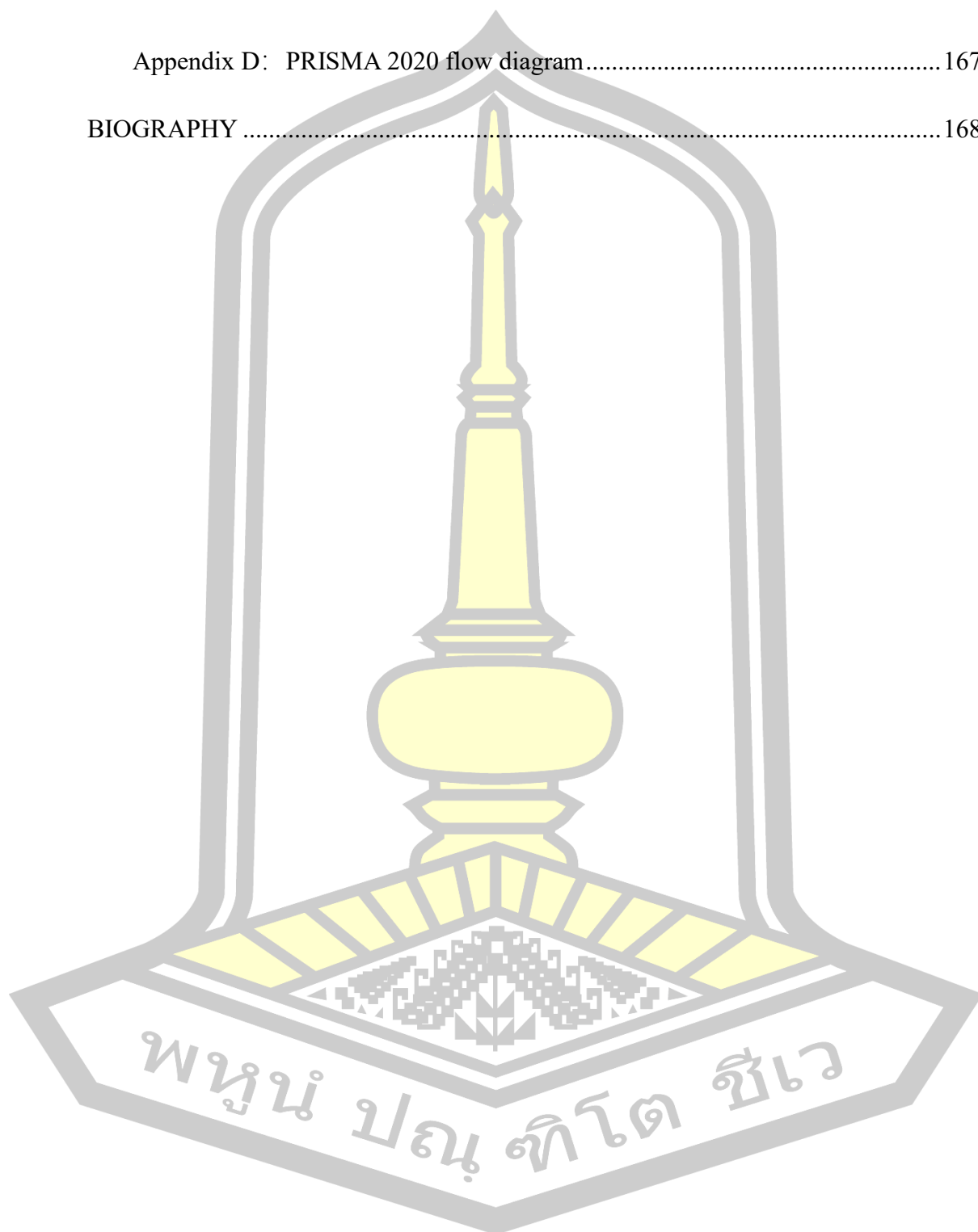
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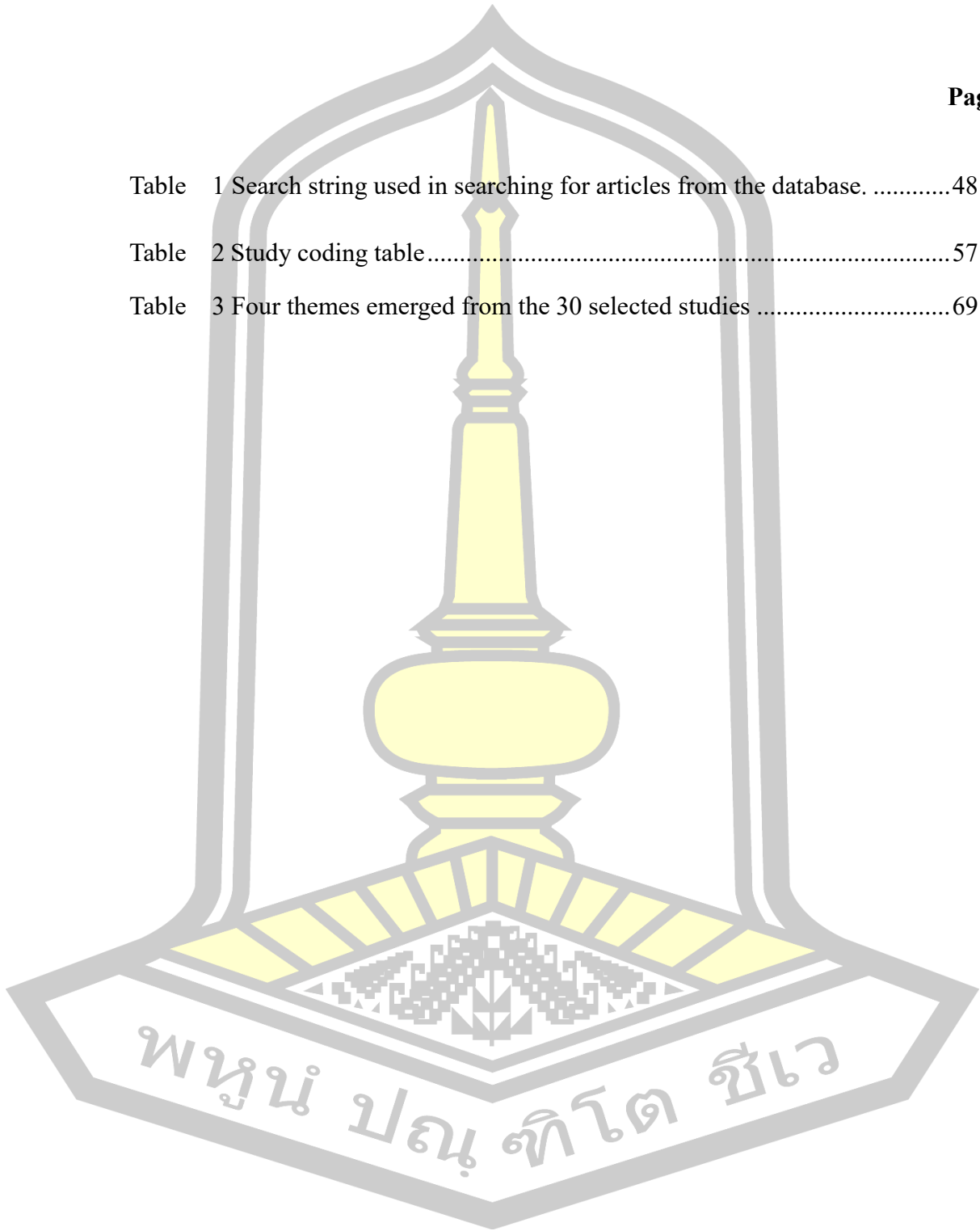
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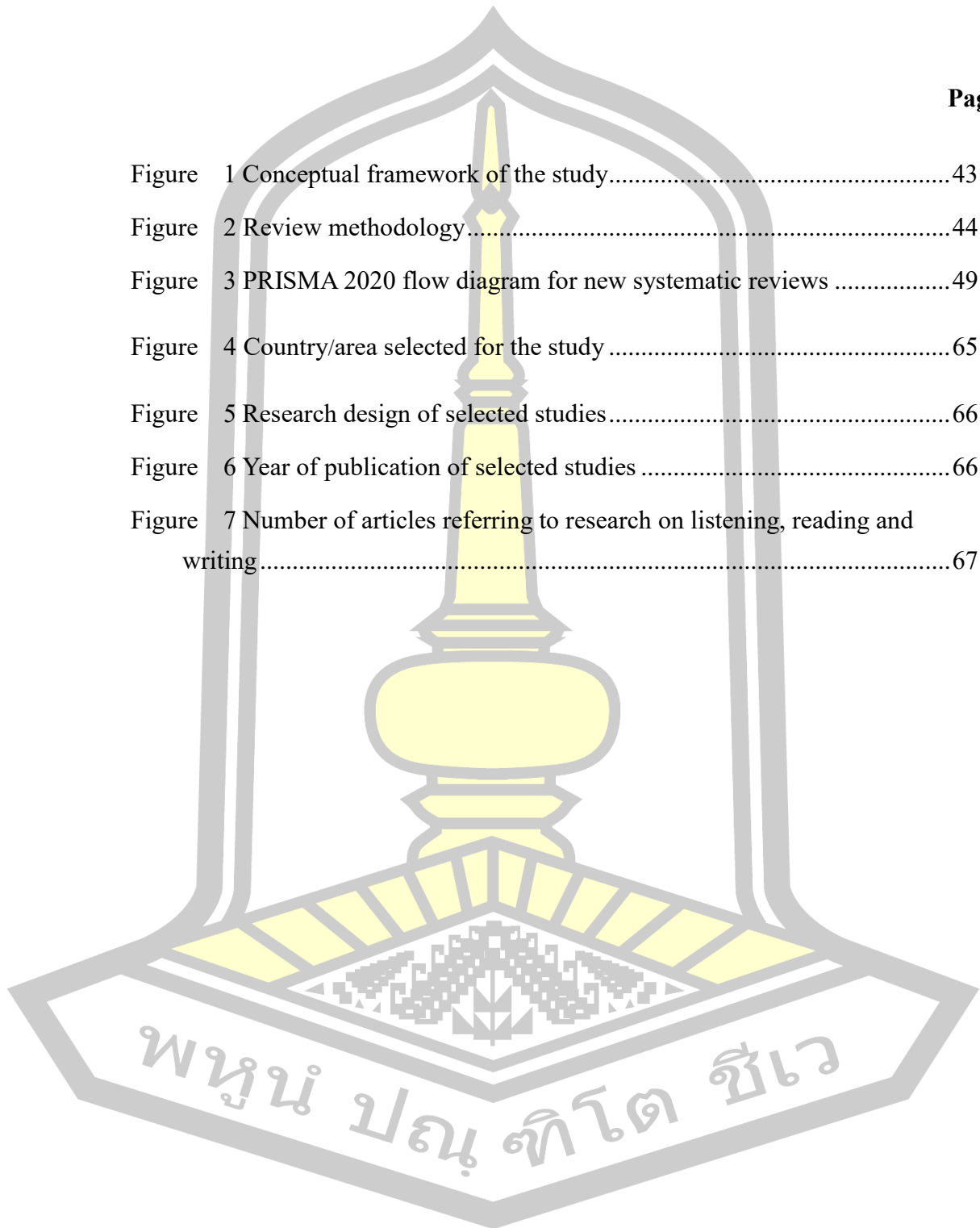
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# CHAPTER I

## INTRODUCTION

### 1.1 Background

Blended Learning is an educational approach that combines traditional face-to-face teaching with online learning, aiming to integrate the strengths of both methods and enhance students' learning experiences and outcomes. It is defined as the deliberate integration of face-to-face and virtual instruction, addressing the limitations of each while optimizing the overall teaching process (Molina-Cristobal et al., 2021). By blending the flexibility of online learning with the interactivity of classroom teaching, this approach provides students with richer learning resources and personalized learning options (Trivedi, 2021). Blended learning not only enhances students' academic performance but also fosters engagement, motivation, and overall satisfaction, making it a preferred method in many educational contexts. Moreover, it helps students develop critical skills such as self-control, independent learning, and teamwork, encouraging active participation in both online and offline learning environments (Trivedi, 2021).

Blended learning has undergone several significant stages of evolution. Initially, it was developed for corporate training, combining traditional in-person instruction with technology-based approaches like recorded teaching materials and TV broadcasts in the 1960s and 1970s. This method laid the groundwork for modern blended learning models (Moore, 2005). With the advent of computer technology and the internet in the 1990s, blended learning expanded into the education sector. Online education platforms and web conferencing began to play a pivotal role, offering more

scalable and flexible solutions for learning. This transition enabled blended learning to bridge traditional face-to-face teaching and online delivery, meeting diverse learning needs in corporate and academic environments (Reece & Lockee, 2019).

Blended learning has developed rapidly since its integration into education. Initially, it was a simple combination of classroom instruction and online resources, often involving recorded lectures and supplementary exercises to reinforce in-class learning (Moskal, Dziuban, & Hartman, 2013). With advancements in technology and shifts in educational paradigms, blended learning has evolved into a student-centered approach. Modern implementations emphasize personalized learning paths, data analytics, and diverse teaching strategies to ensure students can learn efficiently at their own pace and according to their unique needs (Mirriahi, Alonzo, & Fox, 2015)

Since the beginning of the 21st century, blended learning has developed rapidly in global education and has been widely applied across all stages of education, including primary schools, secondary schools, and universities. In higher education, it has gained substantial recognition as an effective approach for improving teaching quality. Many colleges and universities have developed online course resources to provide students with flexible learning options outside the classroom. This approach not only meets the diverse learning needs of students but also overcomes the limitations of time and space, offering a richer and more varied learning experience (Vo, Zhu, & Diep, 2017). Blended learning models in higher education are increasingly recognized for their capacity to enhance students' academic performance, engagement, and overall satisfaction, supported by robust IT infrastructures and continuous evaluation mechanisms (Moskal, Dziuban, & Hartman, 2013). Furthermore, the

flexibility provided by blended learning fosters self-directed learning and allows institutions to expand educational access while maintaining high teaching standards (Anthony, 2021).

The COVID-19 outbreak significantly accelerated the adoption and growth of blended learning, as educational institutions shifted to online platforms due to the disruption of offline courses. This rapid implementation of blended learning not only contributed to its widespread popularity but also spurred the innovative development of educational technology. Many schools and universities have integrated blended learning into their long-term teaching strategies, creating platforms and applications to enhance learning effectiveness and experience (Sain, Aziz, & Sain, 2024). Research highlights the effectiveness of blended learning during and beyond the pandemic. For instance, it has been shown to increase flexibility, engagement, and accessibility for students, while addressing challenges such as the digital divide and technology adoption among educators (Saboo-wala & Mishra, 2021). Moreover, blended learning has become a critical educational approach, combining online and face-to-face instruction to ensure continuity and effectiveness in post-pandemic education (Mali & Lim, 2021).

The current trend of blended learning in education remains robust, driven by advancements in education technology, including artificial intelligence (AI), big data, and personalized learning systems. These developments have further refined the blended learning model, enabling it to meet diverse student needs more effectively (Bushuyev et al., 2024). Moreover, virtual reality (VR) and augmented reality (AR) technologies are increasingly integrated into blended learning environments, creating

interactive and immersive educational experiences for students (Zhou, 2024). Research highlights the transformative potential of these technologies in creating personalized and engaging learning environments, addressing various challenges in traditional education methods while enhancing motivation and retention (Xiao et al., 2024). The integration of AI into adaptive learning systems and VR/AR technologies into classrooms is reshaping the way educational content is delivered and consumed, enabling deeper engagement and understanding (Storey & Wagner, 2024).

With the development of globalization, English has become the primary language for international communication, science, technology, and business activities. In non-English-speaking countries, English language learning has gained significant importance, especially in higher education institutions where English as a Second Language (ESL) programs are now widespread. These programs aim to enhance students' proficiency in listening, speaking, reading, and writing, often requiring students to pass proficiency tests as graduation criteria (Vandrick, Messerschmitt, & Hafernik, 1996). In Asia, countries like China, Japan, and South Korea have popularized English education, integrating it from primary education to universities, with some institutions using English as the medium of instruction to meet global academic standards (Sain, Aziz, & Sain, 2024). In Europe, English education has achieved even higher levels of integration, with many universities adopting English as the teaching language to facilitate international academic exchanges (Boonsuk, Wasoh, & Ambele, 2023). Similarly, in regions such as the Middle East and Africa, English is a critical component of vocational and professional education, playing a vital role in supporting career development and international communication (Mohamed, Ismail, & Eng, 2013).

At present, traditional teaching models in ESL learning face various limitations. In listening, traditional classrooms often limit practice to allocated class times, with limited exposure to diverse audio environments, which hampers comprehensive listening development (Ferris & Tagg, 1996). Speaking opportunities in traditional classrooms are often restricted by teacher-driven activities, leaving students with fewer chances for active participation (Bhatti et al., 2019). For reading, traditional methods frequently rely on uniform materials that do not cater to the varying interests and proficiency levels of students. This restricts vocabulary development and exposure to diverse textual structures, which are critical for enhancing comprehension (Norris, 1970). Similarly, writing tasks are typically assigned as homework, with delayed feedback from instructors, limiting students' ability to promptly address errors and improve their writing skills (Reid, 1993). These constraints make it challenging for traditional models to comprehensively develop all four language skills—listening, speaking, reading, and writing—in ESL learners.

The blended learning model in ESL teaching effectively addresses the limitations of traditional teaching by offering students a diverse learning environment that integrates rich online resources, independent learning opportunities, and classroom interaction. This approach not only provides students with more opportunities for language practice outside the classroom but also enables personalized learning arrangements tailored to individual needs and learning paces. As a result, students' language proficiency is significantly enhanced (Babazade, 2024). Blended learning environments, characterized by online practice, instant feedback, and self-assessment, foster increased motivation and improved learning

outcomes for ESL learners. The flexibility and autonomy inherent in this model broaden learning opportunities while enhancing students' self-management skills, allowing them to better master English language proficiency in higher education (Sivtseva et al., 2021). The adoption of blended learning is also a growing trend in education, offering valuable guidance for educators and policymakers in shaping future teaching strategies (Ma et al., 2021).

Systematic Literature Review (SLR) is a standardized research methodology designed to systematically collect, screen, evaluate, analyze, and synthesize existing literature related to a specific research question. SLR is recognized for its systematic, transparent, and rigorous process, providing researchers with high-quality evidence for decision-making and academic inquiry (Chakraborty & Kar, 2024). Unlike traditional review methods, SLR emphasizes the reproducibility and scientific rigor of the process, ensuring objectivity and comprehensive coverage in selecting and analyzing literature. The methodology involves clearly defined steps, including the formulation of research questions, systematic searching strategies, and rigorous quality assessment, enhancing the reliability of research outcomes (Shaffril et al., 2020). Moreover, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework is widely used to maintain transparency and methodological rigor in conducting SLRs (Pati & Lorusso, 2018).

From the late 1970s to the early 1980s, systematic literature reviews (SLRs) were primarily used in the fields of medicine and clinical research. By the 1990s, their application had expanded to include diverse fields such as social sciences, education, psychology, and management. This evolution transformed SLRs into a critical

research tool across disciplines (Hong & Pluye, 2018). In education, SLRs help researchers gain a comprehensive understanding of specific topics or methodologies. They provide evidence-based recommendations, assisting policymakers and educators in refining teaching strategies. SLRs are particularly effective for assessing the impact of educational strategies, comparing teaching methods, and fostering educational innovation (Bearman et al., 2012). The structured, reproducible, and transparent nature of SLRs has made them indispensable in evaluating the effectiveness of various interventions, offering insights that bridge research findings with practical applications in education and beyond (Borrego et al., 2014).

Using the systematic literature review (SLR) method in this study has important implications for understanding the potential impact of blended learning on the language proficiency of English as a Second Language (ESL) students in higher education. Blended learning integrates online resources, independent learning, and classroom interaction, providing opportunities for personalized learning and diverse pedagogical approaches. This method has been shown to enhance various aspects of language proficiency, including listening, speaking, reading, and writing (Ramalingam, Yunus, & Hashim, 2022). SLR enables researchers to comprehensively assess the effectiveness of blended learning by synthesizing evidence from multiple studies, thereby providing a robust understanding of its benefits and limitations. It allows the identification of gaps in existing research and offers evidence-based recommendations for policymakers and educators (Cheng & Jumaat, 2023). Furthermore, systematic reviews reveal how blended learning enhances motivation, engagement, and

self-directed learning among ESL students, making it a critical approach for future pedagogical innovations (Alenazi, 2023).

### **1.2 Questions of the Research**

What is the impact of blended learning on the English language learning proficiency (listening, speaking, reading and writing) of students in higher education?

### **1.3 Purpose of the Research**

To explore how blended learning affects students' English language proficiency.

### **1.4 Importance of the Research**

The wide application of blended learning not only enhances students' learning experience, but also provides a new direction for teaching reform in higher education. With the acceleration of globalization, especially in non-native English-speaking countries, English proficiency has become an important indicator of global competitiveness. Through blended learning, educational institutions are able to meet students' language learning needs more effectively and help them enhance their language proficiency in a more flexible and resourceful environment.

By systematically analyzing the existing literature, this study will provide strong theoretical support for language teaching and learning in higher education. The results of the study will provide a reference for educational institutions to optimize course design and help teachers better understand the application of blended learning and its impact on students' motivation and self-directed learning. Meanwhile, the study will also provide a basis for educational policy makers to promote the application of

blended learning in higher education in order to enhance the quality of education and students' language proficiency.

### **1.5 Scope of the Research**

This study focuses on research published between 2020 and 2024 on the impact of blended learning on the English language proficiency of non-native English speaking students in higher education. The study will focus on the impact of blended learning on students' listening, speaking, reading and writing proficiency for independent learning and overall learning outcomes through a systematic literature review methodology covering college and university in different countries and regions. Literature was obtained from academic databases such as Web of Science, Scopus, EbSCOhost and ERIC to ensure the breadth and authority of the data.

### **1.6 Definition**

**Blended Learning:** refers to a teaching approach that combines traditional face-to-face teaching with online learning, aiming to enhance students' learning experience and learning effectiveness through the organic combination of the two.

**English language proficiency:** usually refers to an individual's overall ability to communicate in English, covering the four basic skills of listening, speaking, reading and writing. This ability includes not only language accuracy and fluency, but also involves contextual understanding and cultural adaptation. Language proficiency goes beyond the use of grammar to include the ability to use the language in specific social situations.

Listening proficiency: refers to the ability to understand and parse spoken information. This skill is critical for language learners because listening is the primary means of acquiring language input.

Speaking proficiency: refers to the ability to use English to express oneself in communication. This includes the use of pronunciation, intonation and grammar, and also involves the ability to interact with others.

Reading proficiency: refers to the ability to comprehend written material. Good reading proficiency help learners to access information, analyse and synthesise content.

Writing proficiency: refers to the ability to express oneself in writing in English. This includes grammar, use of vocabulary, organisation of text, etc.

Second Language (L2): refers to a language that is learned in a non-native environment, especially a non-native language used by learners in everyday life or in academic settings.

Systematic Literature Review (SLR): a research methodology that collects, screens, analyzes, and integrates existing research findings through a systematic process to answer a specific research question.

PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses): is a set of reporting standards that provide guidance for systematic evaluations and meta-analyses. It aims to improve the transparency and consistency of literature reviews and meta-analyses, and to make the results of studies easier to

understand and replicate. The PRISMA statement consists of a series of recommended entries covering different aspects of systematic evaluations, ranging from sections on study background, methods, and results to discussion.

PICO: A framework widely used in clinical research, educational research, and other fields to help researchers systematically construct research questions and conduct literature searches. PICO stands for four key components, which are:

P (Population/Patient/Problem): the object or population of the study, which refers to participants or problems with specific characteristics or conditions.

I (Intervention): the intervention or strategy under study. This could be some kind of educational method, curriculum, training, technique or treatment.

C (Comparison): the control group or benchmark used for comparison, usually referring to a standard or alternative measure against which the intervention group is compared.

O (Outcome): the expected outcome or impact, referring to the primary outcome that the study is concerned with.

MMAT (Mixed Methods Appraisal Tool): a tool specifically designed to assess the quality of mixed methods research. Mixed methods research combines quantitative and qualitative research methods to provide more comprehensive insights and deeper understanding. Helps researchers, reviewers and practitioners to systematically assess the quality and reliability of research, thereby increasing the credibility of evidence in systematic evaluations and meta-analyses.

## CHAPTER II

### LITERATURE REVIEW and CONCEPTUAL FRAMEWORK

The literature review outlines the definitions and related studies of blended learning, English language proficiency, and systematic literature reviews. This study uses a systematic literature review to investigate the impact of blended learning on English language proficiency. Thus, the validity of the research is determined.

1. Blended learning
2. English language proficiency
3. Systematic literature review
4. Related research
5. Conceptual framework

#### 2.1 Blended learning

##### 2.1.1 Definition of blended learning

Blended learning (BL) is a learning approach that has developed rapidly in recent years in the field of education. It is used in all levels and fields of education, such as primary schools, middle schools, high schools and universities. Blended learning has been studied by a number of researchers (Graham, C. R., Allen, S., & Ure, D. (2004); Dziuban, C. D., Hartman, J. L., & Moskal, P. D. (2004); Garrison, D. R., & Vaughan, N. D. (2008); Hrastinski, S. (2019)) defined it as a pedagogical approach that organically combines traditional face-to-face instruction with online learning, aiming to improve learning outcomes and student engagement through the integration of multiple instructional methods and resources. Dziuban, Hartman, and Moskal (2004)

viewed blended learning as a pedagogical approach that combines effectiveness and socialization opportunities of the classroom with the technology-enhanced active learning possibilities of online environments, rather than the proportions of one instructional model. For Staker and Horn (2012), blended learning is a formal education program in which students learn at least in part through online delivery of content and instruction, where students have some control over time, place, path, and/or pace, and at least in part at supervised, brick-and-mortar instructional sites far from home. Boelens et al. (2017) argue that blended learning involves the strategic combination of online and face-to-face learning activities, designed to enhance students' learning experience by integrating digital media. Garrison and Kanuka (2004) define blended learning as a form of education that combines face-to-face instruction with online learning, a form that goes beyond simply superimposing the two and maximizes the learning experience through the combined use of different instructional resources and strategies to maximize learner outcomes. Graham (2006) states that blended learning excels in achieving flexibility and effectiveness, retaining the advantages of face-to-face interaction while taking advantage of the convenience and diverse resources of online platforms.

In a broader definition, Singh and Reed (2001) suggest that blended learning is more than just a combination of online and face-to-face teaching and learning activities; it involves the combined use of a variety of pedagogical approaches, such as behaviorist, cognitive, and constructivist teaching strategies. When these strategies are brought together, blended learning provides a comprehensive experience for the student, thereby making it easy to cater to the needs of diverse students. Driscoll

(2002) further extended the definition of blended learning in his research to include four main blended models: 1) a blend between online and off-line learning activities, 2) an incorporation of self-paced and guided learning, 3) includes a blend of multiple instructional methods with learning theories, and 4) is a blend of practical applications and academic theories. These four models demonstrate how flexible and adaptable blended learning can be in meeting diverse educational objectives. Thorne (2003) emphasized that blended learning does not refer to a mix of technology and instruction but more as a change in philosophy toward education. Blended learning, she says, represents a change from teacher-centered approaches to teaching and a student-centered approach to learning, with greater initiative and creativity in the learning process. Thorne also adds that blended learning is supposed to include its application to the design of personalized learning pathways, designed to help students learn at their own pace and according to their needs for self-directed learning. Picciano (2009) defined blended learning to include not only face-to-face and online learning but also the integration of synchronous and asynchronous learning activities. Jenkins and Edwards (2019) added that blended learning improves learners' experiences and contributes to better outcomes in the education process. Jenkins and Edwards (2019) blended learning involves mixing several pedagogical approaches and technologies. He and Wang (2022) state that it is a "flexible approach to pedagogy" because it integrates digital and face-to-face learning strategies to elicit better engagement from students. The learning outcomes improve.

Definitions of blended learning differ according to the discipline in question and pedagogical objectives. For example, in higher education, it is described as a practice that overcomes temporal and spatial barriers, hence promoting life-long and personalized learning (Means et al., 2010). These definitions point to the adaptability and wide application of blended learning in modern education, insinuating that it is not just a tool but a new educational philosophy and approach.

Blended learning definitions are multileveled, multidimensional, and multiaspectual – embracing such features as teaching methods, learning environment, and educational philosophies, among others. Summarizing the relevant literature, Hrastinski (2019) notes that blended learning is an ever-changing dynamic model of education and that the definition goes on broadening and deepening through technology development and changes in educational needs. Blended learning is more than the mix-up of a variety of teaching and learning modes; it forms an enabler which is flexible, diversified, and personalized to enhance learning outcomes and satisfaction.

### **2.1.2 Components of blended learning**

Blended learning components go beyond the mixture of face-to-face and online learning. In fact, it is not just considered as a simple blending of face-to-face and online learning but an organic combination of multiple educational strategies, instructional technologies, and learning resources. Because blended learning is essentially designed to harness the most out of its intended purposes, its components must be designed and developed in a detailed and thorough way to allow it to efficiently achieve its educational objectives.

The other component of blended learning is the face-to-face instruction. Garrison and Kanuka (2004) add that face-to-face instruction allows for direct interaction between students and teachers, thus building a base of trust between them, which consequently enhances a deep learning experience. Real-time observation of students' responses and adjustments in the teaching approach could be made by the teacher to address individual needs within the instructional space.

Online learning is another core component of blended learning. Graham (2006) points out that online learning expands

students' access to learning by providing a wealth of digital resources and tools such as video lectures, online quizzes, discussion forums and virtual labs. The advantage of online learning is its flexibility, which allows students to learn independently according to their personal learning pace and schedule. In addition, Means et al. (2010) emphasize that online learning also promotes collaboration among learners, and through online platforms, students can communicate and collaborate with their peers in real time or asynchronously to enhance learning.

Blended learning components also include Instructional Design. Instructional design is particularly important in blended learning, as it determines how effectively face-to-face instruction and online learning are integrated. Boelens et al. (2017) emphasize that blended learning instructional design must align with course objectives, student needs, and the available technology to optimize learning outcomes. Instructional design is not only about the organization of content, but also about how to motivate and deeply engage students through a variety of instructional strategies,

such as project-based learning, case studies, and problem-based learning (Vaughan, 2014).

The changing role of the teacher is also a key aspect of blended learning. According to Moskal, Dziuban, and Hartman (2013), in a blended learning environment, the teacher ceases to become just the transmitter of knowledge but more of a facilitator and a supporter of learning. They must be technologically literate, possessing the skills to safely navigate online tools and resources, in addition to being able to provide focused feedback and support both in-class and online. This shift in the teacher's position implies continuous professional competencies development to enable them to cope with the demands placed on them by blended learning.

Student engagement and learning strategies are equally important components of blended learning. Hrastinski (2019) emphasizes that the success of blended learning depends heavily on students' active participation and self-management skills. The autonomy of the online learning component requires students to have strong time management and self-regulation skills, whereas the face-to-face teaching component requires students to actively participate in class discussions and hands-on activities. Dichev and Dicheva (2017) suggest that gamified learning activities can significantly enhance student engagement and motivation by creating interactive and immersive learning experiences.

Assessment and feedback mechanisms are also important components of blended learning. Gikandi, Morrow and Davis (2011) point out that assessment in blended learning should focus not only on learning outcomes but also on the learning process. Assessment tools such as online quizzes, discussion board feedback, and

electronic portfolios can help teachers better understand student learning and provide timely feedback. Continuous assessment and feedback mechanisms can effectively enhance students' learning outcomes and help them continuously adjust their learning strategies during the learning process. Importance of Blended Learning.

The components of blended learning are diverse and complex. It involves not only the combination of face-to-face instruction and online learning, but also a number of components, including the learning management system, instructional design, teacher roles, student engagement, and assessment and feedback. Each of these components needs to be carefully designed and implemented to ensure that blended learning runs smoothly and learning outcomes are maximized.

### **2.1.3 The importance of blended learning**

Blended Learning (Blended Learning), as an educational model that integrates traditional face-to-face teaching and modern online learning, is important not only in terms of improving the quality of teaching and promoting the all-round development of students, but also in terms of its adaptability and promotion of the modern education system. With the advancement of educational technology and changes in learners' needs, the importance of blended learning has become more and more prominent.

Blended learning significantly improves teaching and learning outcomes. Halverson et al. (2012) highlight that blended learning provides a more engaging and comprehensive learning experience by leveraging the benefits of both traditional face-to-face instruction and online learning tools. Face-to-face instruction provides students with direct interaction opportunities and facilitates communication and

emotional exchange between students and instructors. Gikandi et al. (2011) argue that online learning environments provide a variety of resources and flexible time management, supporting deeper and more personalized learning experiences for students. This dual advantage not only improves students' learning outcomes but also increases their learning satisfaction (Graham, 2006).

Blended learning helps to develop students' self-directed learning proficiency and lifelong learning. Hrastinski (2019) states that blended learning prompts students to take more responsibility in the learning process through the self-directed nature of the online learning component. This type of self-directed learning helps students to improve their time management skills and self-regulation, thus creating a solid foundation for lifelong learning. In addition, Picciano (2009) argues that blended learning environments enable students to apply what they have learned in authentic contexts, thereby improving their problem-solving and critical thinking proficiency, which are essential for their overall development.

Blended learning also greatly improves the accessibility and equity of education. Means et al. (2010) state that through online learning, educational resources can be disseminated across time and space to more students, especially those who are in remote areas or otherwise unable to attend traditional classrooms. The online learning component makes it flexible for students to learn based on their personal timelines, solving the problems of inequity that exist in face-to-face learning due to differences in time and location. The blended learning model further enables educational institutions to respond better to the needs of their various students by

delivering personalized educational services, consequently leveling the education playing field.

On the aspect of professional development, teachers are equally an important concern. According to Garrison and Kanuka (2004), it is through blended learning that professional development of teachers is enhanced; they have to be up to the task on how to handle new techniques and methods of teaching. Involvement in the planning and implementation of blended learning enables teachers to know and use modern educational technologies in enhancing the improvement of their teaching abilities. At the same time, the fast changes of educational technology in a blended learning environment enable better adaptation of teachers and therefore contribute to their more significant role in educational reform (Vaughan, 2014).

Blended learning also positively affects educational management and resource utilization equally. Graham (2006) explains that since the blended learning model seeks to use as much of educational resources for the students, with a reduction in time used for face-to-face teaching, institutions offering education can reduce charges put on physical space and utilization of teaching equipment. Besides, online learning platforms like LMS render education management much more effective. Kirkwood and Price (2014) argue that technology-enhanced learning, including blended learning environments, provides critical data that enable institutions to improve decision-making processes and resource allocation based on students' learning needs.

Blended learning allows flexibility and adaptability in the onset of any unexpected incidents or in cases of special situations. With respect to this, it has been shown in recent studies that blended learning became an important strategy for the

global education system to cope with the crisis during the time of the COVID-19 pandemic. Hodges et al. (2020) observe that the application of blended learning serves as much promise for ensuring continued teaching and learning; it also gives educational institutions more coping options in the face of uncertainty. This flexibility is what makes blended learning irreplaceable and important in the future of education.

The importance of blended learning lies in the fact that it not only improves teaching effectiveness and student experience, but also promotes the development and progress of education in many ways. Whether it is the personalized cultivation of students, the improvement of educational equity, or the promotion of teachers' professional development, blended learning has shown its unique value. With the continuous progress of educational technology, blended learning will play a more important role in the future education system.

#### **2.1.4 How to implement blended learning**

Effective implementation of blended learning requires a combination of instructional design, technology support, teacher training, and student engagement. Boelens et al. (2017) argue that designing and implementing blended learning involves setting clear instructional goals, selecting suitable technological tools, and continuously evaluating and refining the learning process to meet student needs. Dziuban et al. (2018) suggest that successful blended learning implementation relies on teachers having technological competencies and a mindset for pedagogical innovation, which fosters more engaging and effective learning experiences.

Oliver and Trigwell (2005) emphasized that the implementation of blended learning requires full consideration of the needs of learners and the characteristics of

the course, and the design of teaching and learning activities that can stimulate students' interest in learning and improve their learning outcomes. In addition, the role of the teacher is transformed in blended learning from a traditional knowledge transmitter to a learning guide and supporter, and teachers should enhance their ability to adapt to the blended learning environment through continuous professional development (Moskal, Dziuban, & Hartman, 2013). In terms of technical support, Hrastinski (2019) noted that choosing the right online learning platforms and tools is crucial. These tools not only need to be fully functional, but also have a good user experience to ensure that students are able to participate in online learning smoothly. Bates (2015) emphasizes that technical support teams should provide prompt assistance and continuous training to help teachers and students navigate the challenges associated with technology use in blended learning environments.

In summary, in the world, due to its flexibility, adaptability, and efficiency, blended learning has been widely applied and recognized as an innovative educational model. Through reasonable design and implementation, it can effectively improve teaching effectiveness and meet diversified needs in modern education. However, to maximize the benefits of blended learning, comprehensive planning is required in terms of its components, implementation steps, and related support systems.

## **2.2 English language proficiency**

### **2.2.1 Definition of English language proficiency**

English language proficiency is often defined as the overall ability to use language effectively in practical communication. Lantolf and Frawley (1988) pointed out that although language proficiency is often discussed in the field of language

acquisition, its definition remains ambiguous in practical application. According to Murray (2015), English language proficiency is not only dependent on test scores, but should also include the ability to use the language in practical applications in academia or in the workplace. Hornbaker (2017) points out that English language proficiency is not only a simple combination of listening, speaking, reading, and writing, but also involves the adaptability of the language to different scenarios and its expressiveness, which is especially crucial in higher education. He further emphasises that understanding language proficiency requires a combination of measurement indicators to effectively support students' curriculum assessment and academic preparation. Francis (2004) describes language proficiency as a modular structure that emphasises the ability of bilinguals to switch languages in multilingual contexts. This definition illustrates the complexity of language competence and its flexible application in multilingual communication.

### **2.2.2 Components of English language proficiency**

English language proficiency consists of multiple skills such as grammar, vocabulary, pronunciation and fluency. Iwashita et al. (2007) analysed the multiple dimensions of oral proficiency in their study and found that vocabulary and fluency are crucial in measuring overall language performance. Sparks et al.'s (2011) study showed that grammar, vocabulary and phonological processing skills are core components of language proficiency and are particularly decisive in oral and written communication. Hulstijn (2011), on the other hand, proposes a distinction between basic and higher-order linguistic cognition in language proficiency, arguing that different language-use contexts place different demands on these abilities (Hulstijn,

2011). This structured component explains why language proficiency tests need to cover multiple skill areas such as vocabulary, grammar and pronunciation.

### **2.2.3 Importance of English language proficiency**

English language proficiency plays a crucial role in students' academic achievement. Graham (1987) noted that students' academic performance is usually affected by English language proficiency, especially among non-native English speakers, and therefore many colleges and universities have minimum requirements for English language proficiency. Izatullah et al. (2022) further found a positive correlation between English proficiency and academic performance positive correlation between English proficiency and academic performance, and suggested that language proficiency training programmes should be strengthened to help students better adapt to the academic environment. Saville-Troike (1984) noted that vocabulary knowledge is a central factor in students' academic achievement, and this is especially true of second language learners. In addition, Butler and Hakuta (2009) found a significant correlation between oral language proficiency and reading performance, which is critical to the academic development of ELLs. These studies reveal the profound impact of language proficiency on academic success and emphasise the importance of language training in academic settings.

### **2.2.4 How to improve your English language proficiency**

The learning of English language proficiency consists of four major proficiency: listening, speaking, reading and writing and requires the use of a variety of strategies and methods to enhance them. O'malley et al. (1985) pointed out that learning strategies are crucial for second language acquisition, such as the use of

cognitive strategies in listening to enhance comprehension through active listening practice. Singh (2016) emphasises the role of interactive activities in improving speaking proficiency such as role-playing and group discussions that help students to practise speaking naturally in the classroom. In terms of reading and writing, Rao (2019) noted that task-based learning approaches were effective in improving reading comprehension and writing expression by guiding students in content analysis and summarisation (Rao, 2019). Overall, the integrated approach combines interactive, task-oriented and self-management strategies to improve English language proficiency in a more holistic way.

#### **2.2.4.1 How to learn to listen**

Listening proficiency are enhanced through targeted strategies and repetitive practice. Davies (1967) study noted that students' listening comprehension improves with segmented listening practice, and that the use of specific learning strategies (e.g., paying attention to phonology and context) helps students to comprehend the content more effectively in actual communication. Sobhanifar and Ranjbaran (2023) found that the use of reading and listening as an input medium enhanced learners' speaking ability, particularly in terms of accuracy and fluency, and significantly improved the quality of students' linguistic output through the method of skill transfer.

#### **2.2.4.2 How to learn to speak**

The development of speaking proficiency requires attention to the interactive and practical application of language. Tarasenko (2017) emphasises the

importance of enhancing students' oral expression through the design of real-life linguistic communication situations, which requires a lot of practice, teacher motivation and necessary feedback. Jong et al. (2012) in their study of speaking ability found that the dimensions of speaking practice include pronunciation, grammatical accuracy and fluency, which can be improved through interactive practice gradually. Jong et al. (2012) analysed the contribution of pronunciation, grammar and vocabulary in oral expression through structural equation modelling in their study of oral proficiency and found that the proportion of these skills was relatively consistent across learners with different levels of fluency.

#### **2.2.4.3 How to learn to read**

The development of reading proficiency usually relies on the ability to comprehend vocabulary and context. Goswami and Rahman (2023) suggested that students' reading comprehension should be enhanced through a competency-based approach, which integrates various skills such as grammar and vocabulary into the teaching of reading. Gu (2015) found that students' reading competence is closely related to its language environment, age, and other factors, which are particularly evident in second language learning. Chen (2022) revealed the role of English language and literature in the development of reading proficiency through a multidimensional analysis, and found that students' comprehension and critical thinking in reading were significantly enhanced by improving their comprehensive language proficiency.

#### **2.2.4.4 How to learn to write**

Writing proficiency require students to achieve a high level of accuracy in grammar, expression, and logical organisation. Staples et al. (2016) found that the complexity of phrases used by students in their writing did increase significantly as

they progressed through the academic levels. This gradual mastery and enhanced use of phrase structure helped students to express complex ideas more effectively in their academic writing, reflecting the logic and precision required for advanced academic writing. Ho's (1987) study found that the development of writing proficiency was related to the development of expressive skills through typical correlational analyses found significant associations between the development of writing proficiency and expressive competence, particularly among female learners.

### **2.2.5 Blended Learning in English Language Proficiency**

Blended learning combines the advantages of traditional classroom and online learning to provide students with a flexible and interactive learning environment. In terms of English language proficiency, blended learning helps to improve students' speaking and listening proficiency. Freeman (2017) found in his study that the blended learning model can significantly improve students' oral fluency and listening comprehension through adaptive interaction and feedback. In addition, blended learning provides students with the opportunity to self-adjust their learning pace, which helps students of different language proficiency levels to progress at their own pace (Hornbaker, 2017). Research has shown that blended learning can significantly improve students' performance in language proficiency. Faez et al. (2019), in analysing the impact of blended learning on teachers' self-efficacy and language proficiency, noted that students' language progress can be supported through classroom interactions, immediate feedback, and so on, leading to the overall development of skills. In addition, the flexibility of blended learning provides students

with the opportunity to pace their own learning, which helps learners at different levels to make targeted improvements in specific skills.

## **2.3 Systematic Literature Review**

### **2.3.1 Definition of a systematic literature review**

Systematic Literature Review (SLR) is a rigorous and structured research methodology that aims to systematically collect, assess, integrate, and analyze existing literature relevant to a specific research question. A systematic literature review is characterized by a predefined research question, inclusion and exclusion criteria, a systematic literature search process, and rigorous quality assessment steps to ensure the reliability and transparency of the findings. Unlike traditional narrative literature reviews, SLR is not only a way of summarizing the literature, but also emphasizes the systematic and reproducible nature of the research process, which provides researchers in different fields with a more scientific and objective basis for their research (Higgins & Green, 2011). The core feature of a systematic literature review is its rigorous steps and standardized process, which aims to reduce subjective bias of researchers and provide a comprehensive and reliable summary of data through a transparent process. As defined by Cochrane, a systematic literature review is a method of assessing the quality of multiple studies and synthesizing their results through a systematic search and rigorous screening of the existing literature (Higgins et al., 2022).

Systematic literature review can be utilized in various fields. Its uniqueness lies in the fact that by systematically collecting and analyzing all possible studies related to a research question, it can provide a comprehensive and objective picture of the current state of the field, help identify knowledge gaps, and provide directions for

future research (Gough et al., 2012). In addition, a systematic literature review ensures that other researchers are able to repeat the same process to validate the results by documenting the process in detail. In education, SLR is used to analyze the effects of different teaching methods on learning outcomes and to help teachers and educational policy makers choose the most effective teaching strategies (Petticrew & Roberts, 2006).

### **2.3.2 Components of a systematic literature review**

A systematic literature review ensures that the results of the review are scientific and objective through its structured components. Through the clarification of the research question, formulation of the protocol, systematic literature search, data extraction and analysis, a systematic literature review is able to provide comprehensive and reliable evidence to support a specific field.

#### **1. Formulation of research questions**

Following the advice of Petticrew and Roberts (2006), research questions are often framed using the PICO framework (Population, Intervention, Comparison, Outcome) to identify specific research objectives. This framework helps to ensure that the objectives of the review are clear and provides direction for subsequent literature search, screening and data extraction. Clarity of the research question is crucial for a systematic literature review as it directly affects the quality of the overall review. By using the PICO framework, researchers are able to clearly define the research question and break it down into specific components. This not only helps in constructing a literature search strategy, but also ensures that the research question is well-focused, thus increasing the scientific rigour of the study.

## 2. Developing a review protocol

A review protocol (Systematic Review Protocol) ensures the transparency of a systematic literature review. The protocol describes in detail the research question, literature search strategy, inclusion and exclusion criteria, data extraction and analysis methods. According to Higgins et al. (2022), protocol development ensures the reproducibility of the review process and helps to prevent subjective researcher bias during implementation.

## 3. Systematic literature search

Systematic literature search is a core component of a systematic literature review that aims to comprehensively and systematically retrieve all literature relevant to the research question. Moher et al. (2009) state that a systematic literature search must be carried out across multiple databases (e.g., PubMed, Web of Science, Scopus) using a diverse set of keywords and Boolean logic operators. The literature search strategy should also specify the time frame and type of literature.

## 4. Literature Screening

After completing the literature search, the researcher needs to screen the retrieved literature based on predetermined inclusion and exclusion criteria. Page et al. (2021) suggest a dual screening process, starting with an initial screening based on the title and abstract of the literature, followed by a full-text review of the retained literature to ensure that the screened literature is consistent with the research questions and objectives. To ensure transparency, PRISMA flowcharts are commonly used as a tool to demonstrate the entire literature screening process, illustrating the rationale for excluding literature from the screening process (Moher et al., 2009).

## 5 Data extraction and quality assessment

Data extraction is one of the key steps in a systematic literature review, where the researcher needs to extract key information such as study design, sample characteristics, interventions, and outcome variables from each included study. Higgins et al. (2022) recommend the use of a standardized extraction form to ensure consistency in the extracted data. The extracted data are used for subsequent analysis and synthesis.

## 6. Data synthesis and analysis

Data synthesis and analysis is the core purpose of a systematic literature review, which aims to synthesize the results of the included studies either qualitatively or quantitatively. Borenstein et al. (2009) stated that for quantitative studies, meta-analysis is a commonly used analytical method to integrate the results of multiple studies and assess effect sizes and heterogeneity through statistical methods. While for qualitative research, narrative synthesis is a common strategy in which the researcher compares and discusses the results of different studies to identify commonalities and differences between the studies.

## 7. Reporting of results

Transparent and detailed reporting of results is the final step in a systematic literature review and is an important part of ensuring the reproducibility of the findings. According to the PRISMA guidelines (Page et al., 2021), researchers should document each step in detail, including the process of literature screening, data extraction, and analysis, to ensure that the entire research process can be reproduced by other researchers. PRISMA flowcharts and checklists are commonly used tools to help standardize the reporting of results of a literature review by researchers.

### 2.3.3 Importance of a systematic literature review

The importance of a systematic literature review lies in its ability to provide scientific evidence and theoretical support. SLR, through a systematic and structured review approach, can effectively avoid selective bias, ensuring the comprehensiveness and scientific validity of the literature review (Harden & Thomas, 2005). This approach is common in various fields and serves as a crucial basis for policy formulation and guiding practice. For example, in medicine, SLRs evaluate treatment effectiveness to provide a scientific basis for clinical decision-making (Moher et al., 2009).

SLR is important for identifying research gaps and areas that require further investigation. Gentles et al. (2016) propose guiding principles for systematic review methods that aim to reduce methodological inconsistencies and terminological ambiguities in order to achieve more rigorous analyses of complex qualitative data. Denyer and Tranfield (2009) noted that SLR can synthesize existing research results and, by identifying biases and shortcomings, offer suggestions for improving future research. This process advances scientific progress and fosters knowledge innovation (Gough et al., 2012).

Systematic literature reviews also play a key role in knowledge integration and interdisciplinary research. As cross-disciplinary research grows, SLRs provide a systematic method to integrate findings from different disciplines (Booth et al., 2016). This interdisciplinary approach helps break down disciplinary barriers, offering a more integrated perspective for addressing complex social problems (Harden & Thomas, 2005). For instance, SLR has been widely used in educational research to

assess the effectiveness of different teaching methods, offering a scientific foundation for educational policy development and teaching improvements (Gough et al., 2012).

### **2.3.4 How to implement a systematic literature review**

A Systematic Literature Review (SLR) provides the available evidence on a research question through a comprehensive literature search, screening, assessment, and synthesis. To ensure the transparency and scientific validity of systematic literature reviews, the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework is widely used. PRISMA is a reporting guideline for systematic literature reviews and meta-analyses to help researchers in the review process to be transparency and consistency in the review process, ensuring the reproducibility and reliability of the research (Moher et al., 2009).

#### **2.3.4.1 Definition of PRISMA**

PRISMA is a reporting specification to guide systematic literature reviews and meta-analyses through transparent and systematic steps to reduce bias in reviews and ensure the reliability of findings. PRISMA was first published in 2009 and later updated in 2020 (Page et al., 2021) to keep up with the latest developments in literature reviews. The core PRISMA components are the PRISMA checklist and the PRISMA flowchart, which help researchers to document and report each stage of a systematic literature review.

PRISMA 2020 flow diagram: shows each step of the literature screening process, including the results of the search, the number of literature included, and the

reasons for excluding literature. The flowchart is a very important component of the report and helps to increase the transparency of the study.

Process of systematic literature review (based on PRISMA)

#### **2.3.4.2 PRISMA standardisation process**

A standardisation process was provided for the systematic literature review, which included the following key steps:

1. Formulation of the research question. This question typically uses the PICO framework (Population, Intervention, Comparison, Outcome) to define the core variables of the study (Higgins et al., 2022). A well-defined research question facilitates subsequent literature search and data extraction.

2. Develop a review protocol. The protocol should contain the research question, inclusion exclusion criteria, literature search strategy, data extraction plan, and data analysis methodology. PRISMA recommends registering the review protocol on platforms such as PROSPERO prior to conducting a literature search to increase transparency and reduce bias (Page et al., 2021). The protocol helps ensure consistency in the research process and avoids arbitrary changes in plans during the course of the study.

3. Systematic literature search. Multiple databases (e.g., PubMed, Scopus, Web of Science) need to be used in conjunction with keywords and Boolean operators to construct a comprehensive search strategy (Moher et al., 2009). The search process must be clearly documented to ensure that other researchers can replicate the process.

4. Literature screening. This consists of two stages: initial screening and full-text screening. Initial screening usually excludes irrelevant literature based on titles and abstracts; at the full-text screening stage, literature is further screened based on predetermined exclusion criteria. PRISMA flowcharts help to document the process, including the number of excluded literature and the specific reasons for exclusion, ensuring that the screening is transparent (Moher et al., 2009).

5. Data extraction. After screening is complete, key information needs to be extracted from the included literature. PRISMA recommends using a standardized form to document each study's design, sample characteristics, intervention, control group, and its results. The accuracy and consistency of data extraction is critical for subsequent analysis (Higgins et al., 2022). This stage aims to ensure that the core information from each study is extracted accurately and provides the basis for subsequent synthesis.

6. quality assessment. prisma recommends the use of recognized tools to assess the risk of bias for each piece of literature, including selection bias, detection bias, and reporting bias (Higgins & Green, 2011). By assessing the quality of the literature, the quality of the research can be assured, thus increasing the credibility of the review results.

7 Data synthesis and analysis. For quantitative studies, PRISMA encourages the use of meta-analysis to integrate the results of multiple studies, assess effect sizes and measure heterogeneity between studies (Borenstein et al., 2009). For data that cannot be quantified, narrative synthesis is a common analytical approach that

summarizes and compares the results of different studies by describing their key findings.

8. results reporting. prisma requires that each step of a systematic literature review be described in detail in a report. The results report should include the strategy of literature search, the screening process, the characteristics of the included literature, and the results of data analysis and quality assessment. Use PRISMA flowcharts and checklists to ensure that the report is transparent, detailed, and comprehensive (Page et al., 2021).

## **2.4 Related research**

### **2.4.1 Application of blended learning in language learning**

The effectiveness of blended learning has also been widely verified internationally. Garrison and Kanuka (2004) stated that blended learning improves students' language communication skills and self-directed learning by combining face-to-face instruction with online learning. Their study found that the blended learning model has significant advantages in improving students' listening, speaking, reading and writing proficiency, especially in independent and collaborative learning.

Several scholars have emphasised the effectiveness of blended learning in improving language proficiency. For example, Neumeier (2005) found that blended learning environments have significant advantages in developing foreign language learners' speaking and writing proficiency. Students in blended learning environments had more opportunities to practise speaking than in traditional teaching and were able to receive instant feedback via an online platform, which effectively improved their speaking proficiency. Chenoweth & Murday (2003) also emphasised that blended

learning provided students with more opportunities for self-directed learning, which enabled them to learn at their own pace and improve their overall language proficiency.

Blended learning can effectively integrate technological resources to improve language learning. Kukulska-Hulme & Shield (2008) showed that the use of mobile devices in blended learning significantly improved students' listening and speaking proficiency. By using mobile devices for language practice inside and outside the classroom, students were able to learn anytime, anywhere, increasing the continuity and effectiveness of their learning. Similarly, Martyn (2003) highlights the supporting role of technology in blended learning, noting that online learning platforms and tools enhance student interaction and make language learning more dynamic and personalised.

The benefits of blended learning in terms of language proficiency development are even more evident in comparative studies. In a large-scale meta-analysis study, Means et al. (2013) found that blended learning significantly improved students' language proficiency more than either purely online learning or traditional face-to-face instruction. The study showed that by combining online resources with classroom instruction, blended learning not only compensated for the limitations of a single mode of instruction, but also provided a richer learning experience, which effectively improved language proficiency.

In blended learning, psychological adaptation also affects students' learning. Students need to adapt to two different learning environments, online and offline, and this transition may bring additional psychological burdens. Haijing Fan and Jiraporn Chano's (2024) study showed that students' lack of face-to-face interaction with

teachers and classmates while learning online may lead to feelings of loneliness and anxiety. In her study, she also mentioned strategies to cope with psychological stress, whereby teachers reduce the negative impact of stress on learning outcomes by providing psychological support and guiding students to manage their emotions .

Blended learning provides a flexible, interactive and personalised learning environment by integrating the advantages of traditional teaching and online learning, enabling students to learn languages more effectively (Garrison & Kanuka, 2004; Means et al.)

#### **2.4.2 Research on students' ability to learn ESL in different countries**

In recent years, with the acceleration of globalization, English has become the lingua franca of the world, significantly impacting non-English-speaking students in their academic and professional development. Research indicates that learning English has become an essential aspect of students' education and careers, regardless of their native language. In many non-English-speaking countries, governments and educational institutions have implemented measures to standardize English language education to enhance students' proficiency and meet the demands of the global market (Crystal, 2003; Graddol, 2006). To address globalization, countries like China, Japan, and South Korea have implemented English-focused educational reforms. For example, China introduced the Colleges and universities English Test (CET), while Japan implemented reforms aimed at improving global communication skills (Hu, 2009; Nunan, 2003). These policies have resulted in more similar English learning outcomes among students across these nations" (Lamb, 2004).

Research has shown that differences in students' English proficiency tend to diminish in higher education settings, particularly in programs where English is the medium of instruction. This has been demonstrated in cross-national studies across both Europe and Asia, where students' performance in English courses converges despite coming from diverse linguistic and cultural backgrounds (Dörnyei & Csizér, 2002; Jenkins, 2014). This supports the concept of English as a global lingua franca and suggests that students' English language learning abilities show consistency under comparable educational systems and resources.

Despite the diverse linguistic backgrounds of students from various countries, standardized education systems have led to a convergence in their English learning abilities in the context of globalization. Research from different regions supports this trend, providing insights for global English education development" (Fang, 2010; Jenkins, 2007).

#### **2.4.3 Application of the systematic literature review approach in education**

The application of the systematic literature review method in the field of education is gaining increasing attention. Its main role is to systematically collect, analyse and integrate existing research findings to provide a comprehensive knowledge base for educational theory, policy and practice. The systematic literature review method emphasises a transparent, structured and comprehensive approach to improve the scientific validity and reliability of the literature review. In the field of higher education, systematic literature review has been gradually applied, although its frequency of use is still relatively low. Systematic reviews can help scholars gain a comprehensive understanding of the current state of research in a particular field and

identify consistencies and differences in research in order to point the way for future research (Bearman et al., 2012).

A systematic literature review can support educational policy. By critically aggregating and evaluating multiple studies, systematic reviews can help education research move from single findings to a comprehensive accumulation of knowledge, which can be valuable to policy makers. For example, systematic reviews can identify key factors that influence educational effectiveness, thereby providing evidence to support the development of educational policy (Davies, 2000). In the field of special education, systematic reviews can also influence educational practice and policy by ensuring the reliability of the findings by following the principles of consistency, contextualisation, innovativeness and transparency (Cumming et al., 2023).

#### **2.4.4 Systematic Literature Review Approach to Research on Blended**

##### **Learning**

The systematic literature review approach is widely used in research on blended learning, focussing on design challenges, student experience and teaching effectiveness. Blended learning usually combines online and face-to-face teaching models and is believed to help improve student learning outcomes. Purnama et al. (2023) noted that the use of blended learning in primary science courses involved a large number of information technology tools and a flipped classroom model, which resulted in positive learning outcomes. In higher education, Boelens et al. (2017) identified four major challenges in blended learning design, namely flexibility, interactivity, support for the learning process and the creation of an emotional climate. Research has shown that appropriate course design contributes to higher levels of student autonomy and engagement in blended learning.

Transparency is an important criterion in literature reviews. Castro-Gil and Correa's (2021) study showed that reviews on blended learning in the past varied considerably in terms of methodological transparency, and in recent years there has been an increase in more systematic reviews, such as qualitative systematic reviews and meta-analyses, a trend that contributes to the credibility and scientific validity of the research. The findings of blended learning in general show its potential to improve learning outcomes and student satisfaction, and future research could further explore the specific effects of different design factors on learning outcomes.

#### **2.4.5 Application of PICO in systematic literature review**

The PICO (Population, Intervention, Control, Outcome) framework is a commonly used tool for constructing research questions in systematic literature reviews, which helps to clarify research objectives, design search strategies and improve the accuracy of literature screening. When using the PICO framework for searching, by accurately describing the Population, Intervention, Comparison, and Outcome, the research question can be effectively focused and the amount of redundant literature screened can be reduced. Studies have shown that using PICO when used in literature searches improves the precision of the search and, although it may slightly reduce recall, can save time and costs during the screening phase (Scells et al., 2017).

The PICO framework is important for the organisational and analytical aspects of systematic reviews. The use of PICO improves the systematicity and transparency of the literature review and ensures the complete inclusion of all important studies, thus enhancing the scientific validity and objectivity of the findings (Menzies, 2011).

#### **2.4.6 Application of MMAT in systematic literature review**

MMAT (Mixed Methods Appraisal Tool) is widely used in systematic literature reviews as part of the screening process for evaluating the quality of different study designs. MMAT can effectively assess studies that include qualitative, quantitative and mixed methods, and its standardised appraisal framework helps researchers to screen out high-quality literature through key quality criteria, avoiding the impact of low-quality studies on the review results. MMAT's five core evaluation criteria cover qualitative, randomised controlled, non-randomised controlled, quantitative descriptive studies and mixed methods, ensuring applicability and consistency across different study designs (Hong et al., 2018).

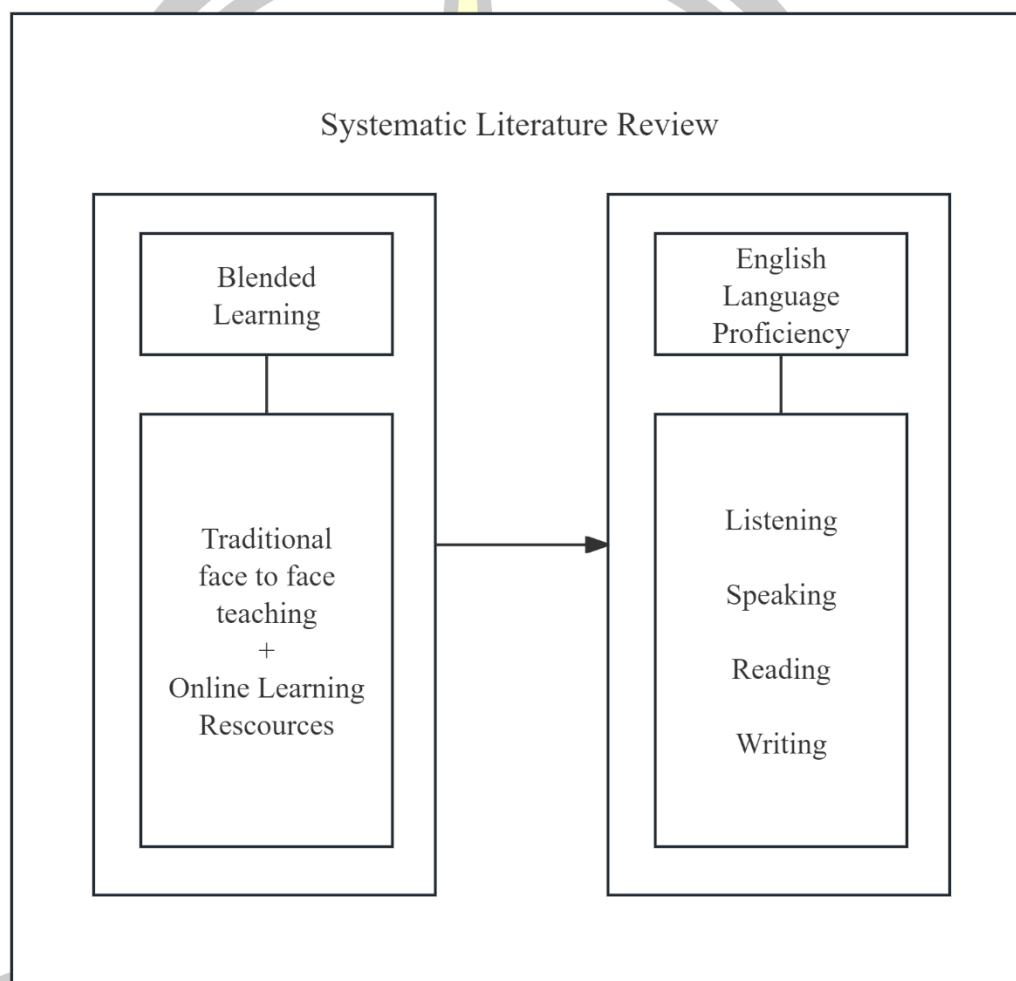
Studies have shown that MMAT is effective in reducing bias and improving the reliability and validity of literature reviews when assessing mixed research methods. Compared with other evaluation tools, MMAT has obvious advantages in assessment efficiency, especially in screening and removing low-quality studies to help speed up the process of literature review (Bannach-Brown et al., 2018).

#### **2.5 Conceptual framework**

Systematic literature review (SLR) is a valuable research tool that emphasizes the advantages of providing reliable data, reducing bias, and integrating knowledge. Blended learning is an educational model that combines classroom teaching with online learning. Its core is to provide students with flexible and personalized learning experiences by integrating technology and face-to-face teaching. It is very important for ESL college students to improve their English language proficiency, which is reflected in the four abilities of listening, speaking, reading, and

writing. This study uses the systematic literature review method to study the impact of blended learning on college students' English language proficiency.

**Figure 1 Conceptual framework of the study**



## CHAPTER III

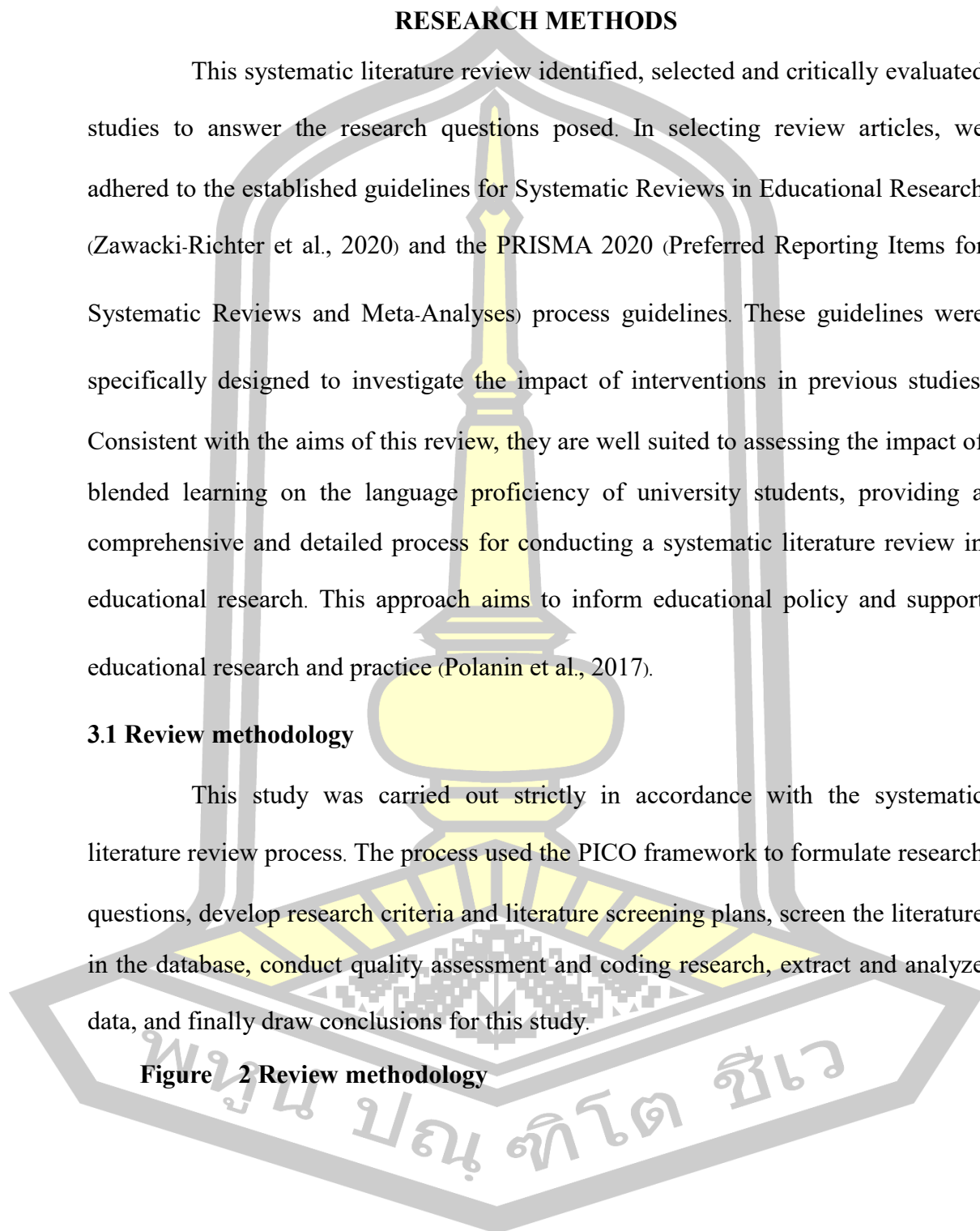
### RESEARCH METHODS

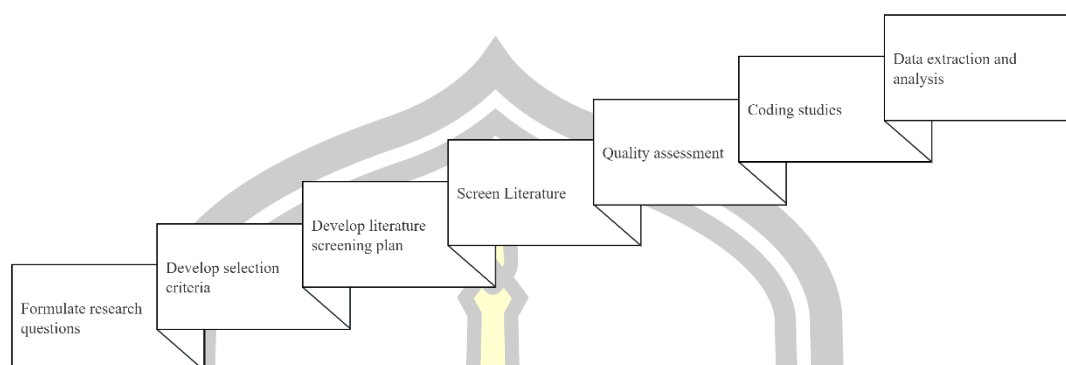
This systematic literature review identified, selected and critically evaluated studies to answer the research questions posed. In selecting review articles, we adhered to the established guidelines for Systematic Reviews in Educational Research (Zawacki-Richter et al., 2020) and the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) process guidelines. These guidelines were specifically designed to investigate the impact of interventions in previous studies. Consistent with the aims of this review, they are well suited to assessing the impact of blended learning on the language proficiency of university students, providing a comprehensive and detailed process for conducting a systematic literature review in educational research. This approach aims to inform educational policy and support educational research and practice (Polanin et al., 2017).

#### 3.1 Review methodology

This study was carried out strictly in accordance with the systematic literature review process. The process used the PICO framework to formulate research questions, develop research criteria and literature screening plans, screen the literature in the database, conduct quality assessment and coding research, extract and analyze data, and finally draw conclusions for this study.

#### Figure 2 Review methodology





### 3.2 Formulate research questions

The site selection criteria for this study were based on PICO (Richardson et al., 1995). By specifying the components of the study (P, I, C and O), the researcher was able to ensure that the questions were scientifically sound and actionable. When applying the PICO framework, researchers should conduct sufficient background research in relation to existing literature to ensure the rigour and relevance of the research question (Higgins et al., 2011; Moher et al., 2009).

In exploring the impact of blended learning on the language proficiency of students in higher education, the PICO framework can be used to decompose the research question into the following components:

P (population): higher education learners whose first language is not English.

I (Intervention): blended learning model.

C (Comparison): traditional classroom teaching model.

O (Outcome): improvement of language proficiency.

The purpose of this study is to explore the new revelations of blended learning on the language learning ability of university students, so the question of this study is determined as follows: What is the impact of blended learning on the English

language learning proficiency of students in higher education?

### 3.3 Develop selection criteria

The literature review protocol of this study aims to explore the specific impact of blended learning on the English language proficiency (listening, speaking, reading, and writing) of non-English-speaking college and university students. It is designed according to the PRISMA standard to ensure the transparency and scientificity of the process. The research background emphasizes that with the advancement of globalization and the increasing importance of English as an international common language, colleges and universities in non-English-speaking countries pay more and more attention to students' English language proficiency, while the traditional teaching model has obvious limitations in the four aspects of listening, speaking, reading, and writing. The blended learning model provides an important solution for optimizing English teaching by combining the advantages of online and offline teaching. The goal of this review is to systematically evaluate the impact of blended learning on students' English language proficiency, clarify the trends of existing research, gaps in research, and the development direction of this field. In terms of search strategy, this study will search for literature published between 2020 and 2024 through Web of Science, Scopus, EBSCOhost, and ERIC databases, with keywords including "blended learning", "English language proficiency", and "higher education", etc., and combine Boolean operators to expand the search scope, limited to English literature. In terms of inclusion and exclusion criteria, the study will select literature that uses quantitative, qualitative or mixed research methods to explore the impact of blended learning on college and university students' English proficiency, and exclude studies that are not in higher education or have incomplete

data. The literature screening will follow the PRISMA process. After screening by title and abstract, the full text will be reviewed in depth through the MMAT quality assessment tool to ensure the inclusion of high-quality research. In data extraction and analysis, information such as the author, publication year, sample characteristics, research methods and key conclusions will be recorded, a coding table will be developed, and the final research conclusions, discussions and suggestions will be drawn through qualitative analysis. Revealing the specific impact of blended learning on English language proficiency provides a theoretical basis and empirical support for optimizing teaching practices and formulating educational policies.

### **3.4 Develop literature screening plan**

This study strictly adhered to the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. PRISMA was initially published in 2009 and updated in 2020 to further improve the transparency and completeness of systematic reviews (Page et al., 2021). Internationally, PRISMA 2020 has been widely used in various research fields, especially in medicine, social sciences, and education, and is considered the gold standard for conducting systematic reviews (Moher et al., 2009; Page et al., 2021). PRISMA 2020 ensures the transparency and rigour of the research process through a systematic approach, which gives the research results high credibility and academic value.

In order to ensure the comprehensiveness and authority of the literature search, this study conducted searches in the following four databases: Web of Science, Scopus, EBSCOhost, ERIC. These databases are well known in the academic community and cover a wide range of subject areas, providing high quality journals and literature resources. In the literature search of these databases, keywords included

‘blended learning’, ‘e-learning’, ‘blended learning’, ‘English language proficiency’, ‘English language learning’, ‘university students’ and ‘higher education’. These keywords cover the various forms of blended learning, focusing on core concepts of language learning, particularly English language learning, to ensure that the search results are highly relevant to the research topic. A combination of Boolean operators ‘AND’ and ‘OR’ was also chosen to further ensure the comprehensiveness and accuracy of the search results. The date of this search was limited to 2020-2024, and the type of literature was limited to dissertations and the language was English in order to obtain the most up-to-date and relevant literature.

**Table 1 Search string used in searching for articles from the database.**

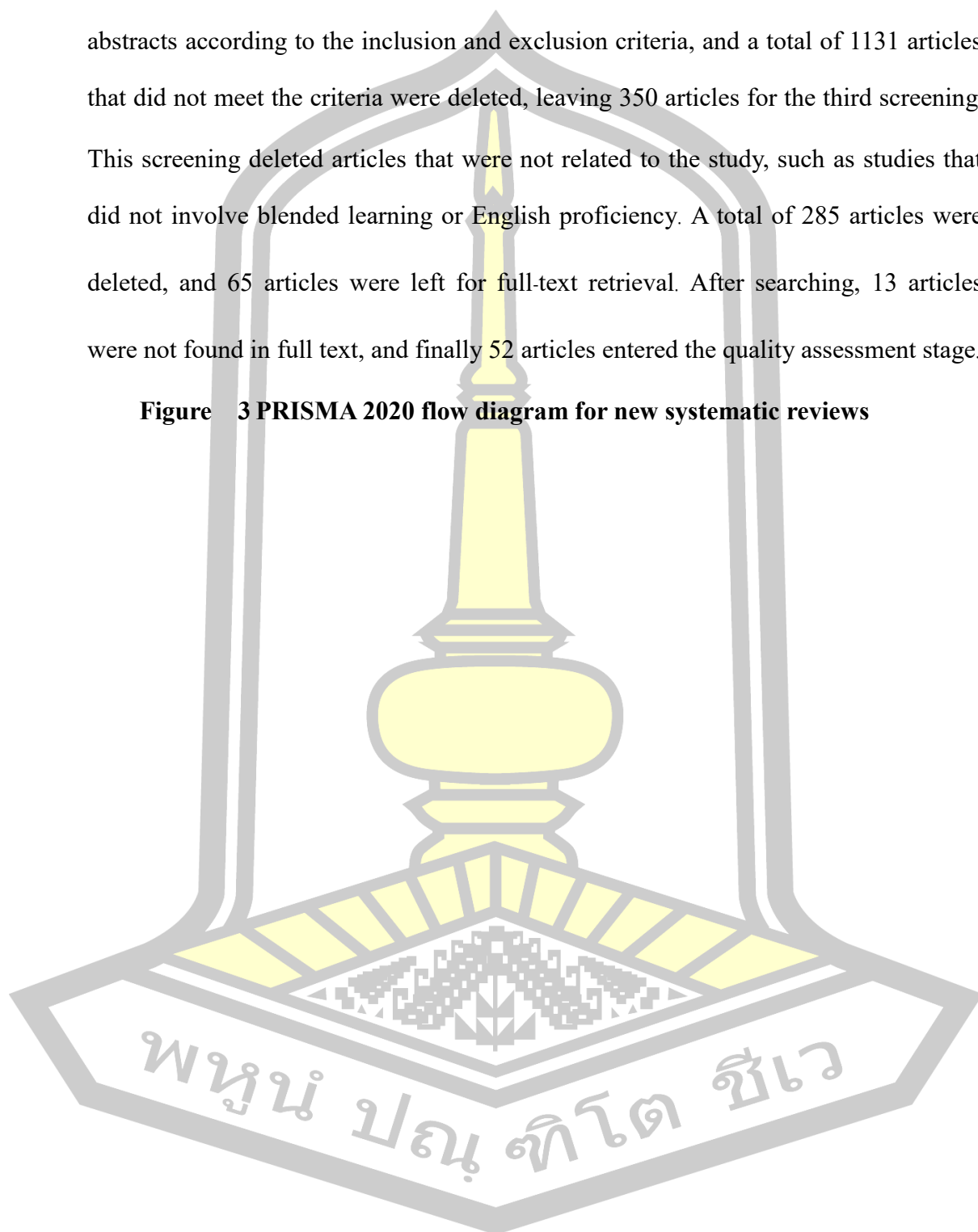
Database	String
Scopus	TITLE-ABS-KEY(("blended learning" or "e-learning" or "hybrid learning" or "online learning") and ("higher education" or "university students") and ("English language proficiency" or "language proficiency" or "language" or "second language proficiency" or "english")) AND PUBYEAR > 2019 AND PUBYEAR < 2025 AND ( LIMIT-TO ( DOCTYPE,"ar" ) ) AND ( LIMIT-TO ( LANGUAGE,"English" ) )
Web of Science	
EBSCOhost	
ERIC	

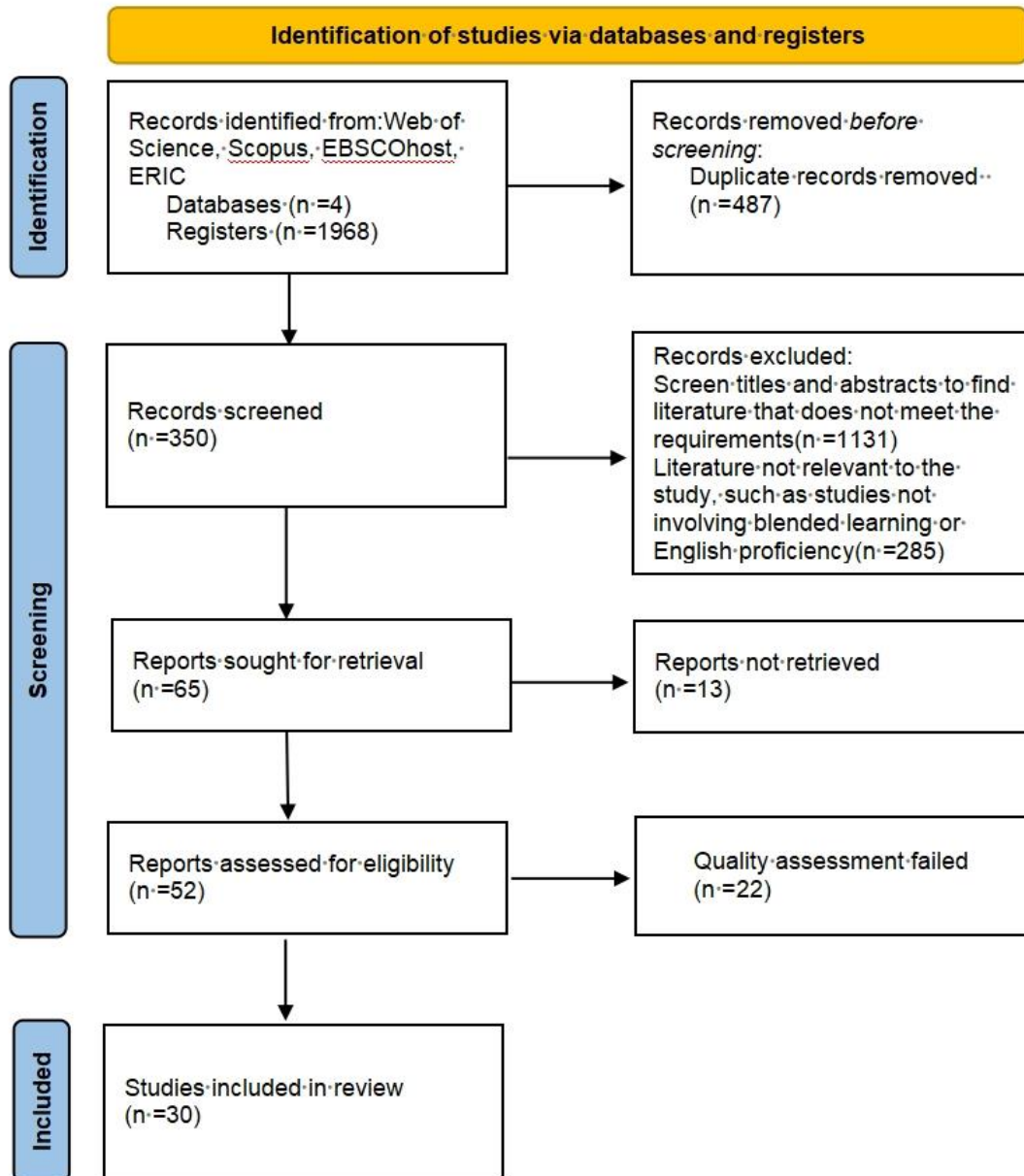
### 3.5 Screen literature

The literature screening process followed the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) process guidelines, as shown in Figure 3. During the screening process, a total of 1968 articles were screened from the designated databases (Web of Science, Scopus, EBSCOhost, ERIC), and these articles were imported into the EndNote literature management tool. After the first systematic screening, 487 duplicate articles were deleted, and 1481 articles were

left for the second systematic screening. This screening quickly screened the titles and abstracts according to the inclusion and exclusion criteria, and a total of 1131 articles that did not meet the criteria were deleted, leaving 350 articles for the third screening. This screening deleted articles that were not related to the study, such as studies that did not involve blended learning or English proficiency. A total of 285 articles were deleted, and 65 articles were left for full-text retrieval. After searching, 13 articles were not found in full text, and finally 52 articles entered the quality assessment stage.

**Figure 3 PRISMA 2020 flow diagram for new systematic reviews**





### 3.6 Quality assessment

In this study, in order to systematically assess the impact of blended learning on the English language proficiency of tertiary students, the MMAT assessment tool was used to assess the quality of 52 articles. The strength of the MMAT is that there are specific quality assessment questions for each study type. It also focuses on transparency and consistency of study design, data collection, and

analysis methods. To ensure the validity of the literature assessed using MMAT for quality assessment, we categorized the 52 articles in advance for research methods (qualitative, quantitative descriptive, quantitative experimental, quantitative non-randomized, mixed methods), and the advance categorization facilitates focused assessment for research methods during the quality assessment process.

#### Assessment process

##### 1. Define the study design and select the appropriate set of questions

Identify the research methodology of the literature when reading the research methodology section of the literature. Example:

If the literature uses interviews or observations as the primary source of data, it is a qualitative study.

Literature is quantitative descriptive research if it uses questionnaires and reports the results of statistical analysis.

Literature is analyzed by combining interviews and questionnaires, then it is a mixed methods study.

Suitable assessment questions were selected from the MMAT question set based on the research design of the literature.

##### 2. Answering the MMAT assessment questions line by line

First answer two key questions, Does the study have a clear research question? Are the data sufficient to answer the research question?

Then assess each piece of literature using the MMAT template to determine the research methodology of the literature, and tailor your answers to the questions in the MMAT 2018 User Manual for different research methods.

##### 3. Scoring and recording

Each question was recorded as “yes” or “no”. The two key questions were worth 5 points each, the five questions on research methods were worth 1 point each, and the four aspects of English language proficiency were worth 1 point each, out of a total of 19 points.

#### 4. Excluding low-quality literature

According to the objectives of the study, the minimum standard can be set, which can be summarized as the literature of the study must be recorded as “yes” for the two key questions with a score of 10, at least one question of the five questions of the research methodology must be recorded as “yes”, and at least one question of the four aspects of the English language proficiency must be mentioned. competence in English was recorded as “yes”. In order to be included in the next step of the study, a score of at least 12 was required to fulfill the above criteria.

The assessment strictly followed the MMAT process criteria and each article was coded to register the title, author and year of publication in preparation for subsequent studies. An assessment team consisting of the authors and three associate professors assessed each of the 52 articles, resulting in the inclusion of 30 articles. This process ensured the rigor and credibility of the literature review and laid the foundation for subsequent analysis.

### 3.7 Coding studies

Coding for this study was designed based on the research questions and was used to assess all articles found. Elements such as study design, study objectives, research questions/hypotheses, participant demographics, country, discipline, data collection and analysis methods, intervention, and length of intervention were

covered. During the coding process, key information from each study was extracted and recorded, including the context of the study, study design, and variables. After coding, this information was consolidated into a structured data table to facilitate further analysis. The coding was collated to identify patterns and commonalities across studies, including key features such as the way each study was designed, when it was published, and the age distribution of participants. Finally, charts were generated to present the coding results, including the country in which the study was conducted, the type of study design, the year of publication, and the age distribution of participants. These charts were used to clarify the background information and differences between the studies. The development of the coding scheme was discussed and developed by the assessment team, thus ensuring that the coding scheme was comprehensive and consistent.

### **3.8 Data extraction**

Data synthesis

Choice of thematic analysis method

This study adopts the descriptive analysis method, which is suitable for literature review type of research, avoids overly complex theoretical constructs and deep analyses, and is more suitable for collating and visually presenting the main findings from multiple pieces of literature. This analytical method can help to quickly and efficiently analyse the impact of blended learning on college and university students' English language proficiency (e.g. listening, speaking, reading, writing and other aspects).

Data Analysis

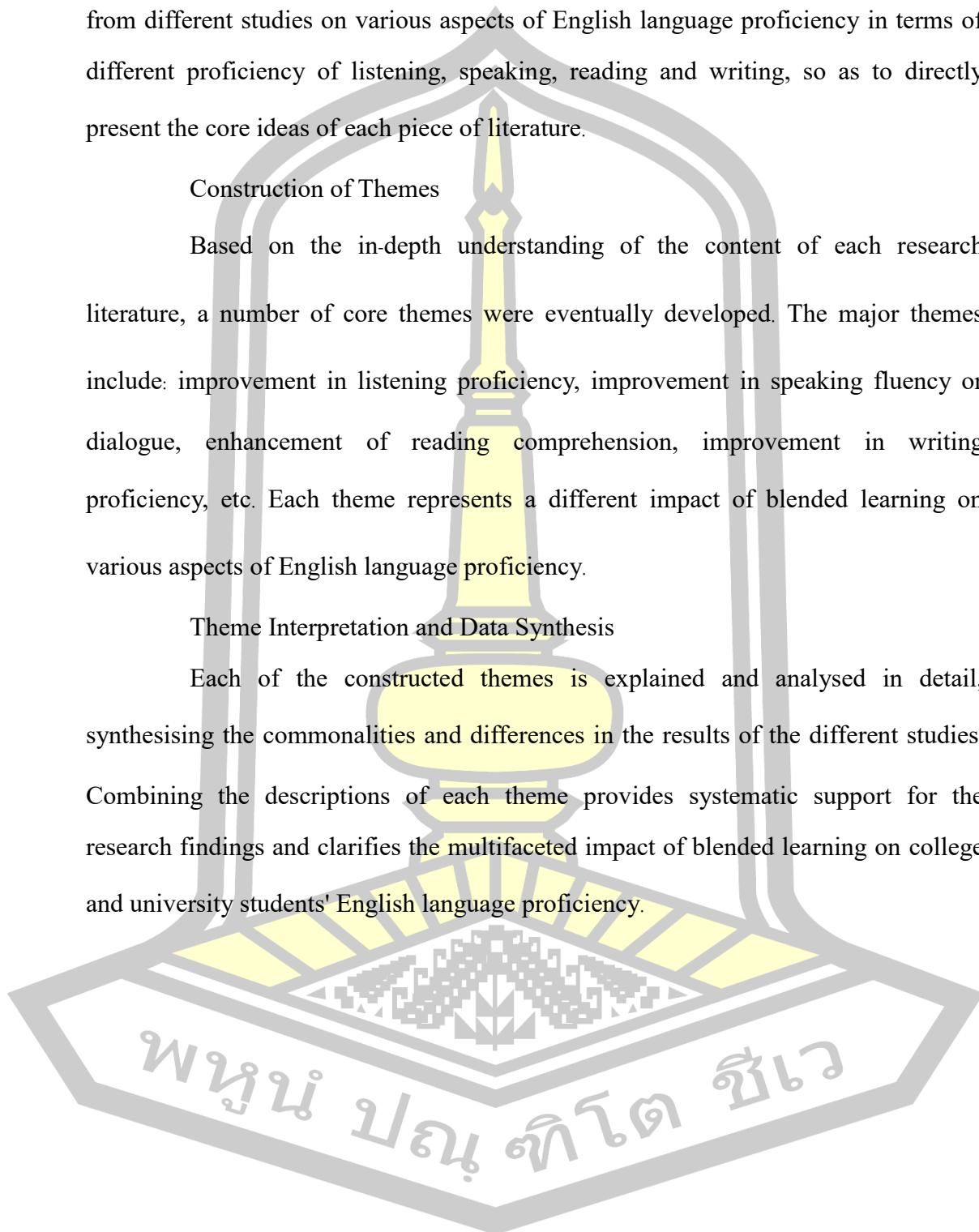
This study uses narrative induction to summarise and describe the findings from different studies on various aspects of English language proficiency in terms of different proficiency of listening, speaking, reading and writing, so as to directly present the core ideas of each piece of literature.

#### Construction of Themes

Based on the in-depth understanding of the content of each research literature, a number of core themes were eventually developed. The major themes include: improvement in listening proficiency, improvement in speaking fluency or dialogue, enhancement of reading comprehension, improvement in writing proficiency, etc. Each theme represents a different impact of blended learning on various aspects of English language proficiency.

#### Theme Interpretation and Data Synthesis

Each of the constructed themes is explained and analysed in detail, synthesising the commonalities and differences in the results of the different studies. Combining the descriptions of each theme provides systematic support for the research findings and clarifies the multifaceted impact of blended learning on college and university students' English language proficiency.



## CHAPTER IV

### RESULTS

Based on the research questions posed in Chapter 1, this chapter conducts a coding study, data synthesis, and descriptive analysis of 30 dissertations that have passed the quality assessment, and uses descriptive analysis to analyze the four core sub-questions of the research questions: 1) What is the impact of blended learning on listening of English language learning of students at the higher education level? 2) What is the impact of blended learning on speaking of English language learning of students at the higher education level? 3) What is the impact of blended learning on writing of English language learning of students at the higher education level? 3) How does blended learning affect reading in English language learning for students at the higher education level? 4) How does blended learning affect writing in English language learning for students at the higher education level? 5) How does blended learning affect writing in English language learning for students at the higher education level? This chapter is divided into four parts:

4.1 Coding Research in Systematic Literature Review Methodology

4.2 Data synthesis and analysis in systematic literature review methodology

4.3 Analysis of the impact of blended learning on students' English language learning (listening, speaking, reading and writing) at the higher education level.

4.4 Summary

## 4.1 Coding Study

### 4.1.1 Background to the coding design

The purpose of this study was to explore the impact of blended learning on English language proficiency in higher education. Through the preliminary quality assessment, 30 articles were selected to meet the inclusion criteria, which were published between 2020 and 2024. The coding sheet was designed to ensure a clear structure, well-defined fields, logical order, and support for diverse data types, while providing operational definitions and examples for consistency. A small pilot run is conducted prior to coding to optimize fields and processes through feedback. A quality assessment team is involved throughout the coding process, maintaining coding consistency checks to ensure reliability, and documenting complete coding decisions and data management processes. In addition, the coded data needed to be able to support flexible hierarchical analysis and statistical processing to provide a scientifically reliable basis for a systematic literature review. The coding framework was designed according to the research themes, covering serial number, title, author, year of publication, country, type of study, sample size, research method, blended learning tool, intervention time, language proficiency, assessment method, and research findings.

### 4.1.2 Complete coding process

The coding process strictly followed the methodology of the systematic literature review, designing the coding form based on the research questions and providing detailed field definitions and operationalization instructions. To ensure the reliability of the coding, 30 pieces of literature were followed up by a quality assessment team throughout the process. During the formal coding phase, relevant

information was systematically extracted from the literature and entered into a pre-designed spreadsheet, while missing information and decision-making rationale were recorded. Upon completion of coding, the results were summarized in a comprehensive Form 2 for subsequent visual presentation and analysis of findings.

**Table 2 Study coding table**



No.	Title	Author	Year	Country/area	Type of research	Sample	Research Methods	Research tools	Interventi on time	Language skill	Assessment methodology	Findings
2	Blended Learning in Higher Medical Education: Principles and Strategies of Teaching Foreign Languages	Oksana Isayeva et al.	2020	Ukraine	mixed research	602	Pre-test + post-test + questionnaire	40% online + 60% classroom teaching	One Semester	Listening, speaking, reading and writing	Achievement statistics + questionnaire analysis	Through the combination of online learning and face-to-face teaching, students' language skills and expected learning outcomes have been significantly improved.
3	Blended Learning in University Writing Classes: Efficiency and Attitude	Tien Thinh Vu & Bui	2020	Vietnam	mixed research	56	Experiment + Questionnaire	Combination of multiple technological tools	8 weeks	Writing	Pre- and post-test analysis + questionnaire analysis	The blended learning model had a significant positive impact on the students' English writing skills, as evidenced by the fact that the students outperformed the control group in the areas of topic development, essay organisation and vocabulary use.
4	The EFL Learners' Lens on Online Teaching Speaking	Erna Iftanti	2022	Indonesia	mixed research	46	Interviews + questionnaires	Google Meet+ Online App	One Semester	Speaking	Quantitative Analysis + Qualitative Analysis	Online teaching combined with appropriate teaching tools and methods can effectively improve students' oral English skills, especially in terms of expression, vocabulary and pronunciation in daily communication significantly.
7	Integrating MOOCs in Formal Education: To Unveil EFL University Students' Self-Learning in Terms of English Proficiency and Intercultural Communicative Competence	Ophelia H. L. Huang	2022	Taiwan, China	mixed research	98	Classroom observation + questionnaire	MOOCs	2-credit course	Listening and Speaking	TOEFL scoring + video analysis	Blended learning significantly improves students' language skills, especially in listening and speaking, and helps students gradually adapt to an all-English environment, while promoting the formation of self-study habits and learning initiative.
10	Using Movie Trailers to Enhance Both Face-to-Face and Online Language Learning Outcomes in an EFL Speaking Class	Galip Kartal & Sabahatti Yemişçinar	2023	Turkey	qualitative research	58	Interviews + questionnaires	Film Trailers	12 weeks	Speaking	Qualitative content analysis + interview transcripts	Student engagement and language proficiency improved significantly, especially vocabulary retention and pronunciation. Online teaching challenges include technical problems and lack of interaction.

No.	Title	Author	Year	Country /area	Type of research	Sample	Research Methods	Research tools	Intervention time	Language skill	Assessment methodology	Findings
15	Improving Paragraph Writing Skills of Saudi EFL University Students Using Flipped Classroom Instruction	Bala Swamy Chatta & Mohammad Imdadul Haque	2020	Saudi Arabia	quantitative research	63	Pre-test + post-test + questionnaire + Panel Discussion	Blackboard platform + YouTube videos	One semester	Writing	Independent samples t-test + questionnaire analysis	The flipped classroom significantly improved the paragraph writing skills of the students in the experimental group; teachers and students showed a high level of satisfaction with the instructional model, while finding technical and time management challenges.
16	University Students' Perceptions of Motivation, Attitude, and Self-Efficacy in Online English Language Learning	Shahtaul Akma Adi Kasuma et al.	2021	Malaysia	quantitative research	270	Quantitative and qualitative analyses + questionnaires	Google Forms	9 weeks	Speaking	SPSS statistical analysis + qualitative analysis	The blended learning model has significant results in improving students' English writing, listening and speaking skills, with the most significant improvement in writing skills, especially in a task-driven learning environment
17	The Relationship Between WeChat and English Language Learning among Chinese University Students	Yang Jiao et al.	2023	China	quantitative research	539	Multiple regression analysis + questionnaire	WeChat	One semester	Reading, Writing	Descriptive Statistics + Regression Analysis	WeChat, as an online learning platform, can significantly improve students' English language proficiency, motivation, self-confidence, and positive attitudes towards English learning, and the effect is especially obvious in English writing.
19	Interactive Design of Online Oral Training in University English Teaching	Lu Li	2022	China	quantitative research	105	CLA modelling + questionnaire	Online Speaking Training System	One semester	Listening and speaking	Pre- and post-test comparison + qualitative analysis	The CLA model significantly improves students' oral communication skills; the simulation-based task design is significantly better than traditional classroom teaching methods.

No.	Title	Author	Year	Country /area	Type of research	Sample	Research Methods	Research tools	Intervention time	Language skill	Assessment methodology	Findings
22	The Importance of the Self: Using Online Diaries in the EFL Classroom	Micol Beseghi	2021	Italy	qualitative research	55	Online Reflective Journal + Questionnaire	Online Learning Journal	One semester	Writing	Theme analysis + questionnaire analysis	Online journal writing in blended learning is an effective tool that not only helps students to improve their English writing skills, but also enhances learners' self-awareness and emotional regulation. This method is particularly suitable for improving students' written expression skills.
23	Investigating the Effectiveness of YouTube as a Learning Tool among EFL Students at Baghdad University	Nawal Fadhil Abbas & Tabarek Ali Qassim	2020	Iraq	quantitative research	26	Questionnaire + descriptive statistical analysis	YouTube	One semester	Listening and Speaking	Statistical description + qualitative analysis	By combining YouTube videos with classroom teaching, students' language skills, especially listening and speaking, were significantly improved, while learning was made more interesting and engaging.
24	The Impacts of Blended Corpus-Based Instruction on Enhancing Writing Proficiency of Thai University Students	Patcharin Satchaya & Sasima Charubusap	2023	Thailand	mixed research	43	Pre-test + post-test + questionnaire	Corpus + online platforms	8 weeks	Writing	Achievement analysis + questionnaire	Significant improvement in writing skills, especially syntax and vocabulary use; positive student attitudes towards teaching methods
26	Academic Engagement and Task Completion in L2 Listening through Mobile-Assisted Blended Learning (MABL) in Higher Education	Jihoon Pyo & Chung Hyun Lee	2022	Korea	mixed research	91	Experimental design + questionnaires + interviews	Mobile devices + online and offline combination	One semester	Listening	Statistical analysis + qualitative analysis	Mobile-assisted blended learning significantly increased students' academic engagement and task completion rates, and the experimental group significantly outperformed the control group in terms of listening skills improvement.

No.	Title	Author	Year	Country/area	Type of research	Sample	Research Methods	Research tools	Intervention time	Language skill	Assessment methodology	Findings
28	A Multimodal Approach to Higher Order Literacy Development of Low-Level EFL University Students in Japan	Dawson R. Lewis & Troy Y. Lewis	2020	Japan	mixed research	20	Pre-test + post-test + questionnaire	Edmodo platform + graphic novels	One semester	Reading	Wilcoxon test + thematic analysis	Significant improvement in reading skills; high student satisfaction with multimodal approach, highlighting the potential of non-traditional reading styles
29	A Comparative Study of Computer and Mobile-Assisted Pronunciation Training	En-Minh Lan	2022	Taiwan, China	quantitative research	63	Pre-test + post-test + questionnaire	CAPT + MAPT (Pronunciation Tutor)	8 weeks	Listening and Speaking	Krippendorff's Alpha-TAM analyses	Students in the MAPT group performed significantly better than the CAPT group on the posttest, especially on the motivation, interaction, and collaborative learning tasks. The CAPT group also improved, but the difference was significant.
30	Advancing English Language Learners' Speaking Skills Using VoiceThread in Mobile Learning for Russian Tertiary Context	Maria Zemlyanova et al.	2021	Russia	quantitative research	44	Pre-test + post-test + questionnaire	VoiceThread	14 weeks	Speaking	Descriptive Statistics + Mann-Whitney U Tests	VoiceThread significantly improved students' speaking skills and engagement; students were generally positive about their learning experience with the tool
32	Exploring the Digital Impact of Big Data-Enhanced Flipped Classroom Instruction in University English	Jiajia Li	2024	China	mixed research	N/A	Genetic algorithm model + data analysis	Flipped classroom + big data technology	One semester	Reading and writing	Mathematical modelling + data processing	Significant improvement in students' writing and reading skills, 25.47% increase in marking accuracy, flexible learning process and good personalised support
33	Effect of blended teaching on college students' EFL acquisition	Tao Y., Yu L., Luo L., Zhang H.	2024	China	quantitative research	676	Multiple regression + conditional quantile regression	Online learning platform + MOOC	One semester	Listening, reading, writing	CET 6 test + statistical analysis	Blended teaching significantly improved the language skills of low- and middle-level students, especially reading and listening, but had a limited effect on the writing of advanced students.

No.	Title	Author	Year	Country /area	Type of research	Sample	Research Methods	Research tools	Intervention time	Language skill	Assessment methodology	Findings
34	Facilitating Online Reading Comprehension in Enhanced Learning Environment Using Digital Annotation Tools	Ruhil Amal Azmuddinn et al.	2020	Malaysia	mixed research	12	NVivo Analysis + Interviews	iREAD digital annotation tool	One semester	Reading	Cohen Kappa + Descriptive Statistics	The digital annotation tool significantly improves reading comprehension and helps students to improve their learning of scientific and technical English by annotating and rewriting summary texts
39	The Impact of Blended Instructions on Developing Jordanian University Students' Morphological Knowledge and Reading Comprehension	Fatima Rasheed Al-Qeyan, Khaled Ismail Alnajjar	2020	Jordan	quantitative research	50	Pre-test + post-test + questionnaire	Smart Class programme	One semester	Reading	ANCOVA Analysis	Blended learning improved the morphological knowledge and reading comprehension of students in the experimental group; technical support and instructor guidance were critical success factors.
40	The Effect of WeChat-Based Instruction on Chinese EFL Undergraduates' Business English Writing Performance	Lixuan Sun & Adelina Asmawi	2023	China	mixed research	80	Pre-test + post-test + Interviews	WeChat	One semester	Writing	SPSS statistical analysis + qualitative analysis	WeChat significantly improved students' grammar, vocabulary and coherence in business English writing, and students were generally more receptive to the model and showed higher interest in learning.
41	Investigating the efficacy of blended learning in ESL classrooms	Misbah Majeed & Fatima Rehan Dar	2022	Pakistan	quantitative research	499	Pre-test + post-test + structural equation modelling	LMS + face-to-face course	One semester	Listening and speaking	Descriptive statistics + t-test + PLS analysis	Blended learning has shown significant improvements in performance on English language tests, supporting its effective implementation in resource-limited settings.

No.	Title	Author	Year	Country /area	Type of research	Sample	Research Methods	Research tools	Intervention time	Language skill	Assessment methodology	Findings
42	Enrolled or engaged? Students' perceptions of engagement and oral interaction in a blended learning language course	Kirsi Korkealahti, Minna Lakkala, Auli Toom	2021	Finland	quantitative research	22	Learning log + questionaire + qualitative analysis	Moodle+ WhatsApp	16 weeks	Speaking	Qualitative content analysis	Lessons designed with authentic tasks promoted students' academic and social engagement; multimodal tasks were effective in improving oral interaction, but some technical complexity negatively affected learning.
44	Online Collaborative Writing in an EFL Writing Class	Burcu Ocak Kılınc & Hatice Güllü Yüksel	2024	Turkey	mixed research	26	Pre-test + post-test + questionaire	Google Docs+Zoom	4 weeks	Writing	Pretest-posttest analysis + qualitative analysis	Collaborative writing significantly improved vocabulary complexity and fluency, but not syntactic complexity; students were highly satisfied with collaborative learning
45	The Effectiveness of Blended Learning in EFL Context: An Experimental Study at Arab Open University-KSA	Dr. Yousef Houssni Zrekat	2021	Saudi Arabia	quantitative research	60	Pre-test + post-test + questionaire	LMS + classroom teaching	2 months	Reading, writing	t-test + descriptive statistical analysis	Blended learning significantly improved the writing skills of students in the experimental group, especially logical structure and grammatical accuracy; students were more receptive to the model, but there were technical challenges.
47	Students' Affective Engagements in Peer Feedback Across Offline and Online English Learning Environments	Tipaya Peunghaenroenkun & Budi Waluyo	2024	Thailand	mixed research	61	Interpretive Mixed Methods Design	Zoom + classroom instruction	12 weeks	Writing	t-test regression analysis	Students in the online feedback group were more engaged and the data showed an increase in writing fluency and complexity.
48	Flipping the Class: Using Online Collaboration to Enhance EFL Students' Oral Learning Skills	Ian Douglas Fischer & Jie Chi Yang	2022	Taiwan, China	quantitative research	54	Pre-test + post-test + questionaire	Google Hangouts +LMS	14 weeks	Speaking	t-test ANOVA analysis	Online synchronous collaboration significantly improved students' speaking skills, especially students in group video discussions outperformed both the traditional flipped classroom model and the traditional classroom.

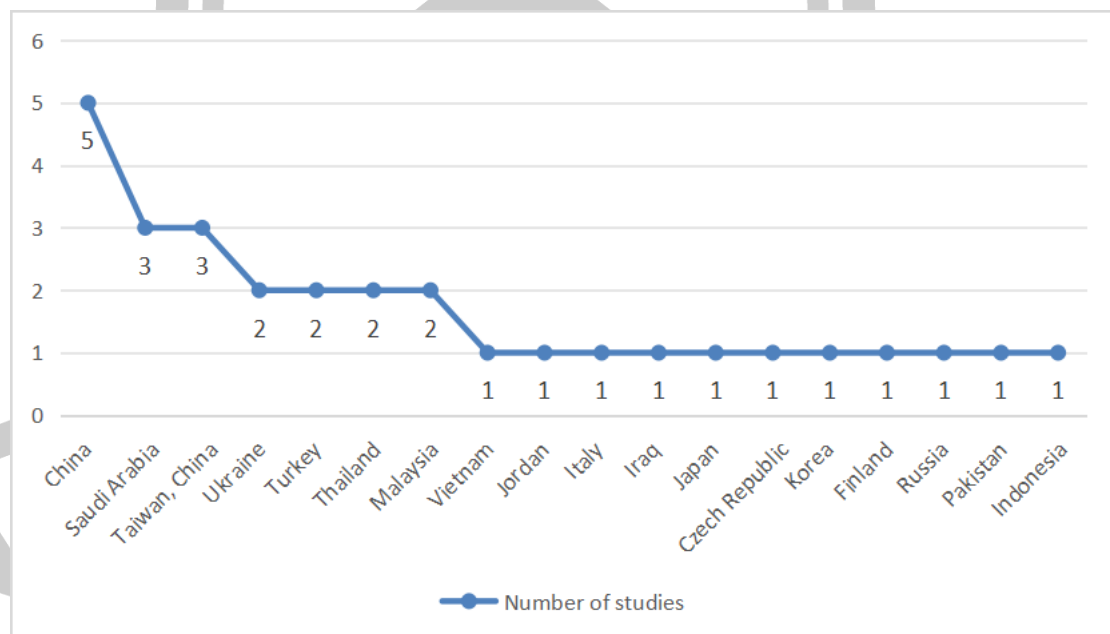
No.	Title	Author	Year	Country /area	Type of research	Sample	Research Methods	Research tools	Intervention time	Language skill	Assessment methodology	Findings
49	eLearning 4.0 as a Sustainability Strategy for Generation Z Language Learners	Marcel Pikhart & Blanka Klimova	2020	Czechoslovakia	quantitative research	40	Questionnaire + experiment	Blackboard + eLearning	One semester	Reading	Descriptive Statistics + Regression Analysis	Generation Z, through blended learning, relied on eLearning platforms to significantly enhance their comprehension and interactive abilities with complex texts.
50	The Impacts of Blended Learning on English in Higher Education	Yahya Hayati Nassar et al.	2023	Saudi Arabia	quantitative research	N/A	Analysis of the literature review	Information and Communication Technologies (ICTs)	No specific time	Writing	Evaluation of Effectiveness + Data Integration	Blended learning writing skills are most effective, particularly in providing flexible learning experiences and diverse learning resources; technological developments will continue to drive their impact in higher education.
52	Master Students' Perceptions of Blended Learning in the Process of Studying English during COVID-19 Pandemic in Ukraine	Vita Bezhudin et al.	2021	Ukraine	mixed research	84	Quantitative analysis + open-ended questionnaire	Moodle platform + classroom teaching	3 months	Reading, writing	Likert scale + descriptive statistics	Blended learning significantly improves student flexibility and engagement in learning, but inequality in technological facilities is a major challenge

#### 4.1.3 Data analysis of coding table

By coding and analyzing the 30 articles, the data on the type of study, time of study, country (region) of study, and language proficiency can be visualized very well.

It was determined that several countries (regions) conducted research on the effects of blended learning on English proficiency in this study (Figure 3), five studies were conducted in China, three studies in Saudi Arabia and Taiwan, China, two studies in Ukraine, Turkey, Thailand, Malaysia, and one study in Vietnam, Jordan, Italy, Iraq, Japan, Czech Republic, South Korea, Finland, Russia, Pakistan, and Indonesia were conducted.

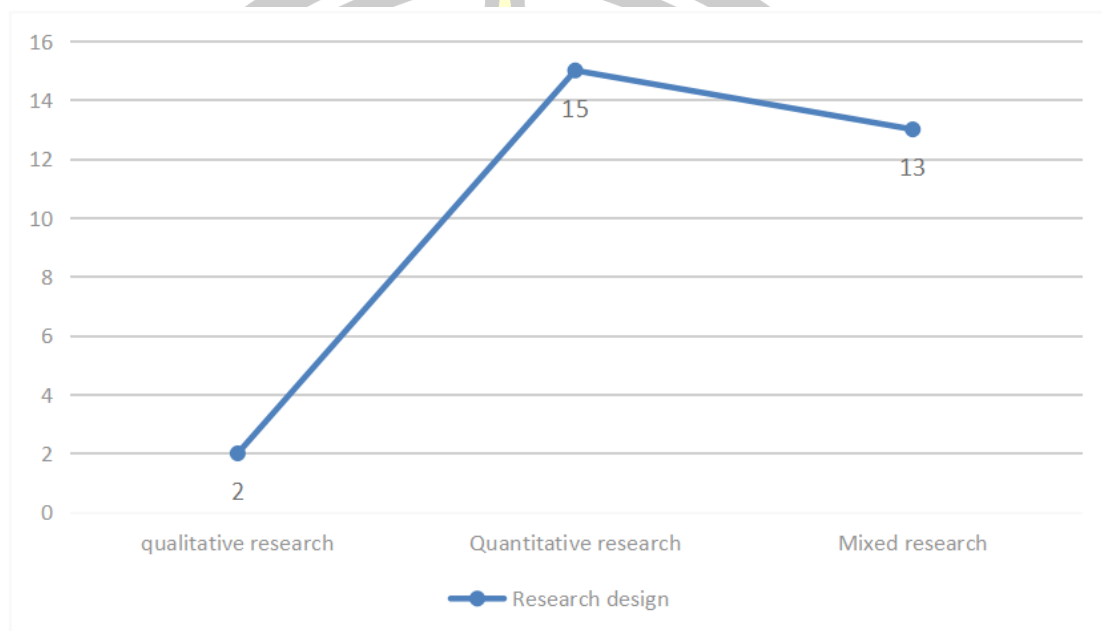
**Figure 4 Country/area selected for the study**



Blended learning methods were studied in 30 articles using qualitative, quantitative and blended methods (Figure 4), and according to the records in the

coding table, there were 2 articles in qualitative studies, 15 articles in quantitative studies and 13 articles in blended studies.

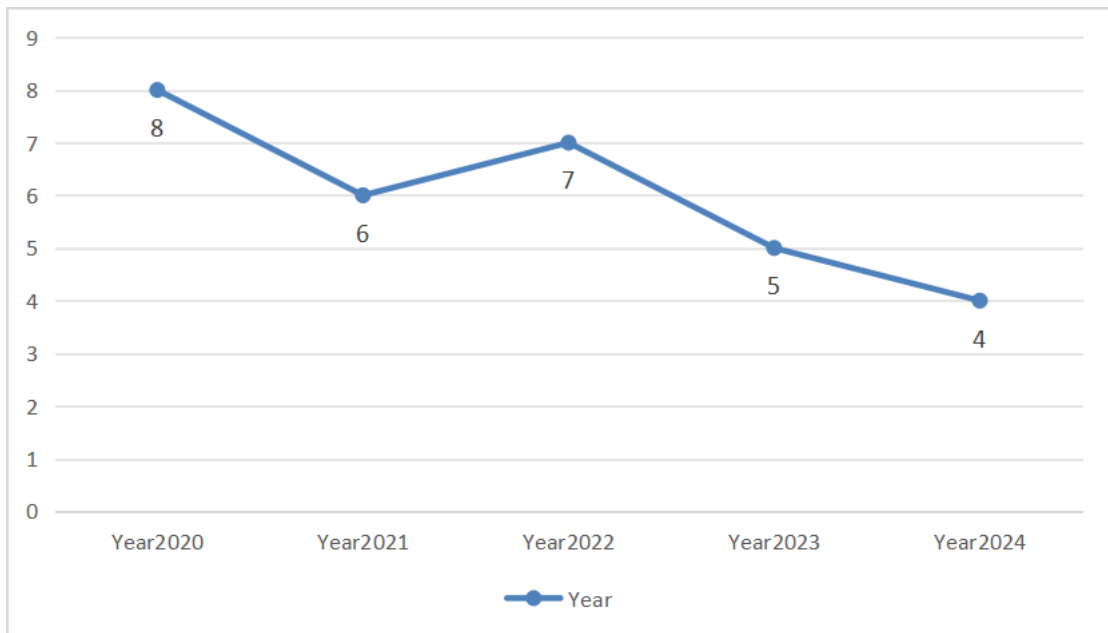
**Figure 5 Research design of selected studies**



The decoding table also shows that articles on this study were published every year from 2020 to 2024 (Figure 5), with 8 studies published in 2020, 6 studies published in 2021, 7 studies published in 2022, 5 studies published in 2023, and 4 studies published in 2024.

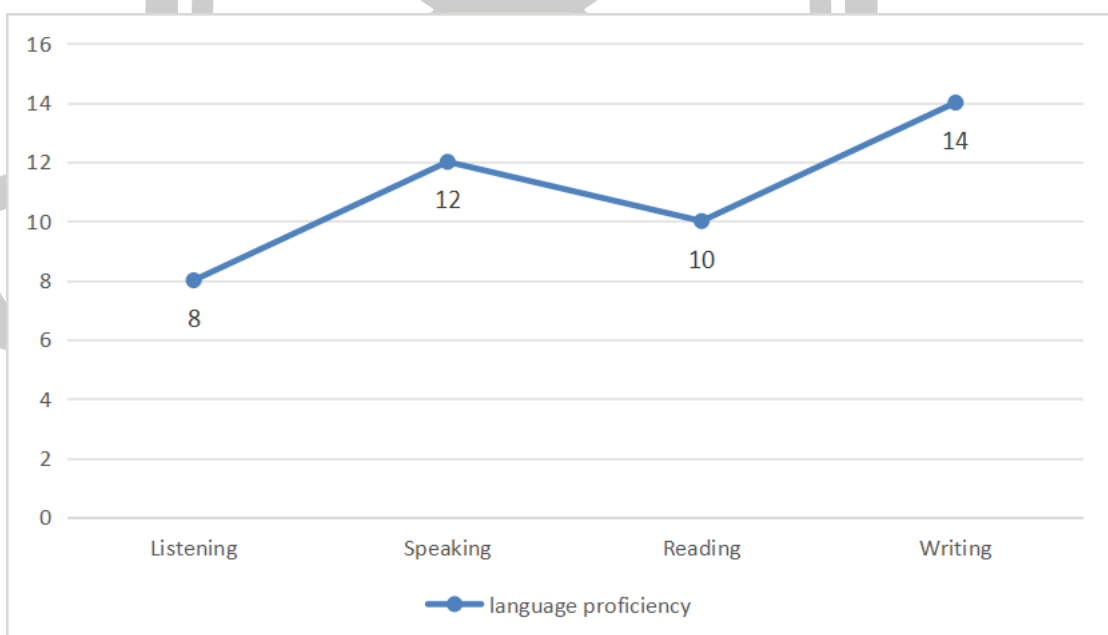
**Figure 6 Year of publication of selected studies**





The effect of blended learning on college and university students' English language proficiency in terms of listening, speaking, reading, and writing proficiency (Figure 6), with 8, 12, 10, and 14 (including double-counting studies) mentioning related proficiency, respectively.

**Figure 7** Number of articles referring to research on listening, reading and writing



## 4.2 Synthesis and Analysis of Data

The question of this study is the effect of blended learning on college students' English language proficiency? Analyzing from the question, English language proficiency is classified into four aspects: listening, speaking, reading and writing, and this classification has a solid theoretical foundation and extensive practical support. The earliest theoretical basis comes from Hymes' (1972) theory of communicative competence, which proposes that language proficiency includes "language knowledge" and "language use ability", laying the foundation for the later classification of listening, speaking, reading and writing. The Common European Framework of Reference for Languages (CEFR) is one of the most authoritative international standards for assessing language proficiency. It divides language proficiency into four skills: listening, speaking, reading and writing, and sets clear level descriptions for each proficiency. This framework has been widely used in international language exams such as IELTS (International English Language Testing System) and TOEFL (Test of English as a Foreign Language), which assess candidates' performance in each of the four areas individually to provide a comprehensive measure of language proficiency.

Therefore, English language proficiency is also the four abilities of listening, speaking, reading, and writing. Based on the above analysis, Four themes of the impact of blended learning on college and university students' English language proficiency have been identified: 1) How does blended learning affect higher education students' English language learning of listening? 2) How does blended learning affect higher education students' English language learning of speaking? 3) How does

blended learning affect higher education students' English language learning of reading?4) How does blended learning affect higher education students' English language learning of writing?

**Table 3 Four themes emerged from the 30 selected studies**

No.	Listening learning proficiency	Speaking learning proficiency	Reading learning proficiency	Writing learning proficiency
2	Blended learning, through flipped classrooms and online materials, significantly improved students' listening comprehension proficiency from 75% to 86%.	Blended learning, through interactive classroom activities and group discussions, effectively enhanced students' speaking proficiency from 64% to 82%.	Blended learning, by combining online and offline resources, improved students' reading comprehension proficiency from 84% to 89%.	The task-driven approach and the application of flipped classrooms in blended learning significantly enhanced students' writing proficiency from 57% to 79%.
3				Blended learning significantly improved students' writing proficiency, particularly in topic development, essay organization, and lexical usage.
No.	Listening learning proficiency	Speaking learning proficiency	Reading learning proficiency	Writing learning proficiency
4		Through online platforms like Google Meet, students improved their daily speaking expressions despite challenges such as reduced social interaction and unstable internet connections.		

7	Students' listening proficiency improved significantly through MOOCs, particularly in adapting to an all-English environment and understanding foreign language content.	MOOCs enhanced students' speaking abilities, especially in building confidence during online interactions and expressions with students from different countries.		
10		Students significantly improved their speaking abilities and classroom participation through situational mimicry and interactive exercises in movie trailers.		
No.	Listening learning proficiency	Speaking learning proficiency	Reading learning proficiency	Writing learning proficiency

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15				Flipped classroom instruction significantly improved students' paragraph writing proficiency, including the application of topic sentences, supporting sentences, details, and concluding sentences.
16		Students enhanced their speaking proficiency during real-time interactions with teachers and peers, especially in discussions and language practice.		
17			WeChat's content feeds and diverse reading materials enhanced students' comprehension of English texts, particularly in vocabulary and sentence structure learning.	The WeChat Moments writing feature improved students' English writing proficiency, especially in the logical structure and language accuracy of short pieces.
No.	Listening learning proficiency	Speaking learning proficiency	Reading learning proficiency	Writing learning proficiency

19	The "integrated task" teaching model significantly improved students' listening comprehension through the integration of reading and audio-visual training.	Online oral training enhanced students' speaking abilities through simulated real-life scenarios and group discussions, especially in fluency and logical expression.		
22				Writing online diaries significantly improved students' written English proficiency, particularly in reflective and self-expressive writing.
23	Watching YouTube videos significantly improved students' listening comprehension, particularly in understanding faster speech and different accents.	Students enhanced their speaking fluency and accuracy by mimicking the pronunciation and intonation of native speakers in YouTube videos.		
No.	Listening learning proficiency	Speaking learning proficiency	Reading learning proficiency	Writing learning proficiency

24				Blended corpus-based instruction significantly improved students' writing proficiency, especially in sentence structure, verb tense, subject-verb agreement, and word choice.
26	Through Mobile-Assisted Blended Learning (MABL), students' listening comprehension improved significantly, particularly in task completion combining online and offline activities.			
28			Multimodal reading intervention significantly improved students' reading comprehension, especially in higher-order literacy skills such as analysis and evaluation.	
No.	Listening learning proficiency	Speaking learning proficiency	Reading learning proficiency	Writing learning proficiency

29	Mobile-Assisted Pronunciation Training (MAPT) significantly enhanced students' listening comprehension, particularly in recognizing intonation and sentence stress.	Interactive exercises on mobile devices significantly improved students' speaking fluency and pronunciation accuracy.		
30		VoiceThread significantly improved students' speaking proficiency, particularly in fluency, pronunciation, grammar, and vocabulary usage.		
32			The flipped classroom, driven by big data, significantly improved students' reading proficiency, particularly in understanding complex texts.	The flipped classroom teaching model significantly enhanced students' writing proficiency, particularly in structure and grammar usage.
No.	Listening learning proficiency	Speaking learning proficiency	Reading learning proficiency	Writing learning proficiency

33	Blended teaching significantly enhanced students' listening proficiency, with an improvement of 10%, particularly benefiting students at beginner and intermediate levels.		Blended teaching had the most significant impact on reading proficiency, with an improvement of 11.7%, particularly in reading comprehension.	Blended teaching showed a minor impact on writing proficiency, with an improvement of only 4.4%, and had little effect on advanced-level students.
34			Digital annotation tools significantly improved students' reading comprehension, especially in identifying paragraph structure and organizing information.	
39			Blended morphological instruction significantly improved students' reading comprehension, with experimental group scores being notably higher than those of the control group.	
No.	Listening learning proficiency	Speaking learning proficiency	Reading learning proficiency	Writing learning proficiency

40				WeChat-based instruction significantly improved students' Business English writing proficiency, including grammar, vocabulary, coherence, and cohesion.
41	Blended learning combining online and face-to-face sessions significantly improved students' listening comprehension.	Through classroom discussions and online interactions, students have improved in their English speaking proficiency		
42		Weekly video discussion tasks significantly enhanced students' speaking fluency and interaction skills, particularly in work-related contexts.		
44				Online collaborative writing significantly improved students' lexical complexity and writing fluency but had no significant impact on syntactic complexity.
No.	Listening learning proficiency	Speaking learning proficiency	Reading learning proficiency	Writing learning proficiency

45			Blended learning significantly enhanced students' reading proficiency, particularly in extracting information and understanding structure in complex texts.	Students' writing proficiency have improved significantly, particularly in structured and argumentative writing
47				In both online and offline environments, peer feedback activities significantly enhanced students' confidence and collaborative abilities in writing, though they did not directly affect the quality of writing outcomes.
48		FG (collaborative group) students significantly outperformed the RFG and TC groups on the posttest of the speaking test (based on a simulated IELTS test). Group discussion and real-time interaction significantly improved fluency, vocabulary use, and pronunciation accuracy.		
No.	Listening learning proficiency	Speaking learning proficiency	Reading learning proficiency	Writing learning proficiency

49			<p>Generation Z, through blended learning, relied on eLearning platforms to significantly enhance their comprehension and interactive abilities with complex texts.</p>	
50				<p>The blended learning course showed significant improvements in writing organisation and language expression, with online feedback tools and collaborative tasks significantly improving students' writing proficiency.</p>
52			<p>Blended learning significantly improves students' reading comprehension proficiency, particularly in technical materials and specific uses of English, and students show significant progress in their ability to access, analyse and synthesise information.</p>	<p>Students' writing proficiency improved through online feedback and interactive activities, with significant performance particularly in task allocation and logical organisation of writing, where online teaching provided an efficient means of instruction and assessment.</p>

### **4.3 Analysis of the impact of English language proficiency (listening, reading and writing)**

#### **4.3.1 What is the impact of blended learning on the listening of English language learning for students in higher education?**

Blended learning combines online and offline teaching resources to provide comprehensive support for the improvement of college and university students' English listening ability, especially in listening comprehension, self-directed learning, language application skills, and technological aids, which show significant advantages (Isayeva et al., 2020; Huang, 2022; Pyo & Lee, 2022; Tao et al. Abbas & Qassim, 2020).

Blended learning significantly improved listening comprehension. Isayeva et al.'s (2020) study showed that students' listening scores improved from 75% to 86% through a combination of 40% online and 60% offline instruction. Tao et al.'s (2024) study further indicated that blended learning was particularly significant for low and intermediate students, with low proficiency students improving their listening. The increase was 13.1%.

Technology-assisted enhancement of personalization and efficiency of listening training. Huang (2022) emphasized that MOOCs courses provide immersive learning environments in which students can personalize their learning for listening materials through the pause and replay functions, thus better mastering listening proficiency. Meanwhile, Abbas and Qassim (2020) found that the flexible playback feature of YouTube videos and real-language input significantly enhanced students' listening comprehension.

Blended learning fostered students' self-directed learning ability and motivation. Pyo and Lee (2022) noted that the mobile-assisted blended learning (MABL) model significantly increased students' learning engagement and listening comprehension by collaborating with peers on tasks through instant messaging tools. Lu Li (2022) found that blended learning, supported by multimedia technology, helped students to reduce listening anxiety and improve learning motivation.

Blended learning optimizes the application of listening proficiency in authentic contexts. Majeed and Dar (2022) showed that students became more proficient in mastering contextual and semantic complexities through audio and video materials combined with face-to-face discussions in blended courses, thus demonstrating higher language proficiency in real-world applications.

Blended learning provides fair opportunities for students at different levels to improve. Tao et al. (2024) noted that blended learning was effective in improving listening for low and intermediate level students, while the improvement for high level students was relatively small. This suggests that blended learning has greater advantages in the reinforcement and consolidation of basic skills.

Through the integration of online and offline resources, flexible learning modes and the support of technological tools, blended learning provides an effective way for college and university students to improve their English listening proficiency, especially in the cultivation of listening comprehension, self-directed learning and practical application skills, which shows unique advantages.

### **4.3.2 What is the impact of blended learning on the speaking of English language learning for students in higher education?**

Blended learning, which combines online and offline teaching modes, significantly improves university students' English speaking proficiency, especially in terms of phonological expression, interactive communication, self-directed learning ability, and cultural adaptability, showing a positive impact (Isayeva et al., 2020; Iftanti, 2022; Huang, 2022; Kartal & Yeşilçinar, 2023; Lan, 2022; Abbas & Qassim, 2020).

Blended learning significantly improved the accuracy and fluency of oral expression. Isayeva et al. (2020) noted that through teamwork and group tasks, students' oral proficiency increased from 64% before the experiment to 82%. Kartal and Yeşilçinar's (2023) study also found that the use of movie trailers as a pedagogical tool through the "shadow reading" exercises, students significantly improved their accuracy of speech, intonation and stress.

Diverse online resources enhanced students' language skills. Huang (2022) emphasized that language-based catechism courses (LMOOCs) provided students with an immersive learning environment in full English, and students improved their confidence and accuracy in oral expression by repeatedly watching and replaying the course content. Meanwhile, Abbas and Qassim (2020) pointed out that YouTube videos help students build vocabulary and master grammar through a combination of audiovisual and audio formats, providing authentic language input for oral expression.

Blended learning promotes language practice and social communication skills through interactive design. Lan's (2022) study showed that Mobile Assisted Pronunciation Training (MAPT) significantly enhanced students' oral engagement and speech perception through group practice and immediate feedback. Lu (2022) further suggested that the use of task design such as Leaderless Group Discussion (LGD) not only enhanced students' engagement, but also improved expressive fluency and grammatical accuracy.

Real-time interaction and group work optimized students' oral performance. Kasuma et al. (2021) found that real-time communication through platforms such as Zoom and WebEx enabled students to interact efficiently with teachers and peers, significantly increasing their confidence and engagement in oral expression. Fischer and Yang (2022) further noted that online collaborative video and group discussion significantly improved students' speaking skills, especially in terms of vocabulary acquisition and grammar application.

Blended learning enhanced students' cultural understanding and language application. Kartal and Yeşilçinar (2023) emphasized that the linguistic and cultural information in the movie trailers helped the students to be exposed to authentic expressions, which improved the authenticity and cultural relevance of speaking. Meanwhile, Majeed and Dar (2022) point out that face-to-face interactions combined with online resources further consolidated students' practical language skills and made them more comfortable expressing themselves in authentic contexts.

Through the flexible teaching mode, rich language input and efficient interactive design, blended learning provides multidimensional support for the improvement of college and university students' oral English proficiency, especially in

the areas of language expression, self-confidence building and social communication proficiency, which show significant advantages.

#### **4.3.3 What is the impact of blended learning on the reading of English language learning for students in higher education?**

By combining online and offline teaching resources, blended learning provides comprehensive support for the improvement of college and university students' English reading ability, especially in reading comprehension, independent learning, vocabulary building and higher-order thinking development (Isayeva et al., 2020; Lewis & Lewis, 2020; Rasheed & Alnajjar, 2020; Tao et al. 2020; Tao et al., 2024; Zrekat, 2021).

Blended learning significantly improved students' reading comprehension. Isayeva et al. (2020) showed that students' reading scores increased from 84% to 89% through a blended learning model. In addition, Rasheed and Alnajjar (2020) stated that morphologically explicit instruction helped students to quickly master affixes and their meanings, thus expanding their vocabulary knowledge and further improving their reading comprehension skills.

Technology tools optimize the development of reading proficiency. Lewis and Lewis (2020) found that digital annotation tools were effective in improving students' recognition of paragraph structure and comprehension of complex text. Such tools helped students better understand the complex contexts of scientific and technical texts by highlighting, annotating, and rewriting online materials.

Blended learning enhances students' self-directed learning ability and learning flexibility. Li (2024) pointed out that the flipped classroom enables students to

flexibly organize their learning schedule according to their own needs without the constraints of time and place through instructional videos and online tasks. This approach not only enhances learning efficiency, but also develops students' self-management skills.

Blended learning promotes the development of higher-order reading proficiency and critical thinking. Lewis and Lewis (2020) showed that by reading graphic novels and engaging in discussions of triggering questions, students demonstrated a significant increase in analytical and evaluative skills, which further strengthened their academic reading proficiency.

Blended learning provides equitable opportunities for students at different levels to improve. Tao et al.'s (2024) study showed that blended learning was particularly effective in promoting low and intermediate level students, with students in the 10%-25% decile improving their reading skills by 13.5%. This instructional model provides more support for students with weak foundations, while meeting the needs of students at different levels through flexible learning resources.

Through the integration of online and offline resources, the support of diversified technological tools and flexible learning design, blended learning provides an effective way to improve college and university students' English reading proficiency, and especially shows excellent advantages in the cultivation of reading comprehension, independent learning ability and critical thinking.

#### **4.3.4 What is the impact of blended learning on the writing of English language learning for students in higher education?**

Blended learning, by combining online and offline teaching resources, provides effective support for the overall improvement of college and university students' English writing ability, especially in terms of writing proficiency,

independent learning ability, critical thinking and collaborative ability, which show significant advantages (Isayeva et al., 2020; Tien & Diem, 2020; Chatta & Haque, 2020; Nassar et al., 2023; Rasheed & Alnajjar, 2020).

Blended learning significantly improved students' English writing proficiency and overall competence. Isayeva et al. (2020) emphasized that blended learning helped students to master spelling, grammatical system, and sentence linking proficiency, which enhanced the accuracy and fluency of written expressions. Meanwhile, Tien and Diem's (2020) experimental study showed that students performed significantly better than the control group in topic development, essay organization and vocabulary use.

Blended learning enhances students' self-directed learning and learning flexibility. Chatta and Haque (2020) noted that the flipped classroom model fosters students' self-directed learning through instructional videos and task-driven learning, enabling them to be flexible in scheduling their learning and engage in deeper learning. Nassar et al.'s (2023) study further demonstrated that blended learning stimulates students' learning initiative and engagement.

Blended learning promotes critical thinking and creative expression. Tien and Diem (2020) found that the essay analysis and discussion component of blended learning significantly enhanced students' critical thinking proficiency, while Rasheed and Alnajjar (2020) noted that students expanded their vocabulary knowledge through morphology instruction and were able to be more creative in their writing tasks.

Blended learning combined with technological tools optimized the development of writing proficiency. Satchayad and Charubusp (2023) noted that

corpus learning was effective in improving students' writing proficiency through vocabulary collocation, grammar application, and sentence construction exercises. Nassar et al. (2023) further emphasized that online collaborative tools (e.g., Google Docs) provided students with opportunities for real-time feedback and group work, thus enhancing writing efficiency and quality.

Blended learning provides equitable opportunities for students at different levels of proficiency, and Tao et al. (2024) showed that blended learning was particularly effective for low and intermediate students, with gains in writing proficiency ranging from 7.0% to 15%. This model is important in helping students with limited resources break through writing bottlenecks.

Through the integration of online and offline resources, flexible learning paths and the support of technological tools, blended learning not only significantly improves college and university students' English writing ability, but also shows unique advantages in the development of critical thinking, independent learning and collaborative skills.

#### **4.4 Summary**

This chapter delves into the impact of blended learning on the English language proficiency of higher education students, focusing on listening, speaking, reading, and writing proficiency. Through a systematic review and analysis of 30 articles, several blended learning methods were found to be helpful in improving English proficiency.

**Personalized Learning Paths:** Students can customize learning resources and adjust progress according to their proficiency levels and individual needs, fostering a more targeted and effective learning experience.

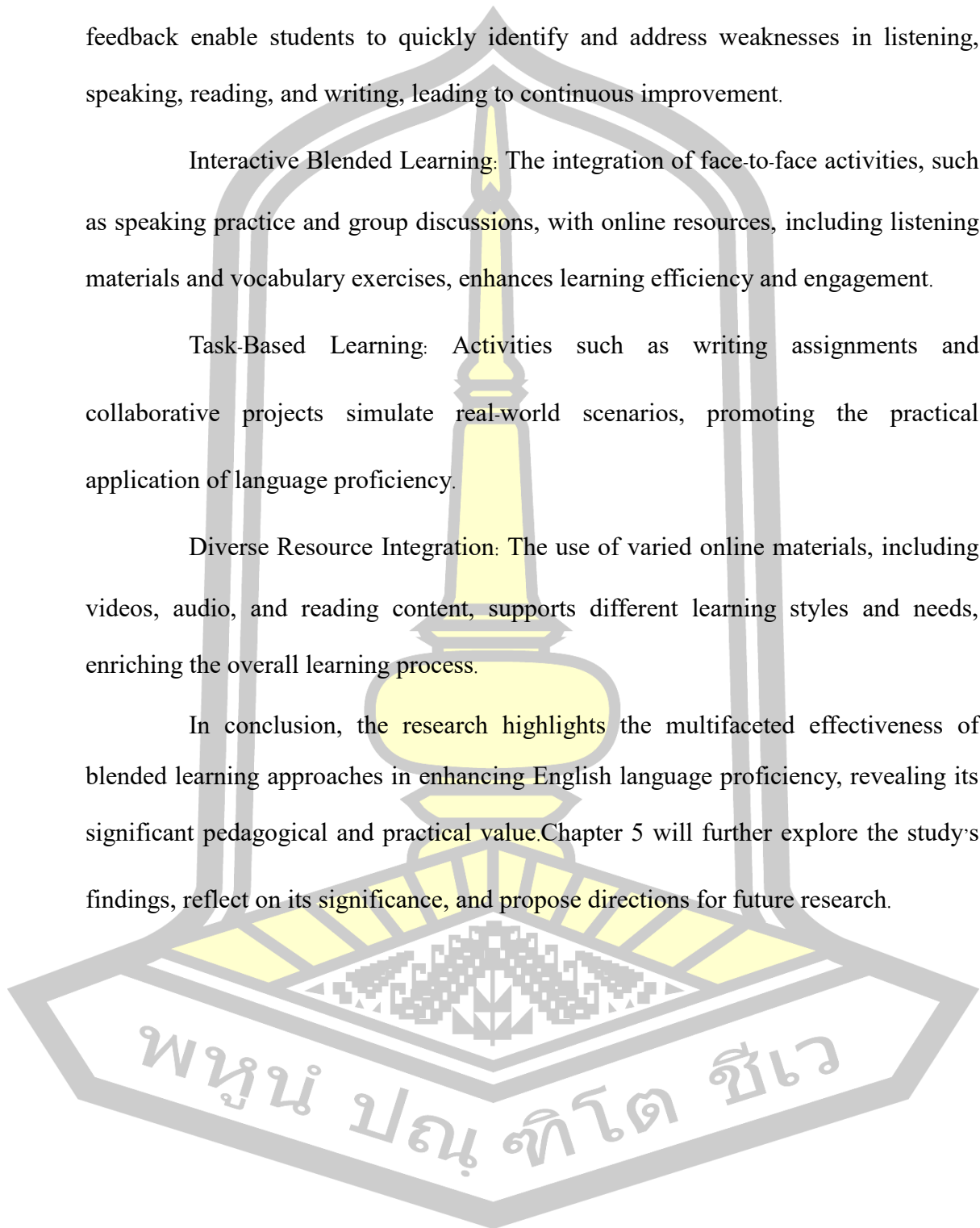
**Immediate Feedback and Assessment:** Online quizzes and timely teacher feedback enable students to quickly identify and address weaknesses in listening, speaking, reading, and writing, leading to continuous improvement.

**Interactive Blended Learning:** The integration of face-to-face activities, such as speaking practice and group discussions, with online resources, including listening materials and vocabulary exercises, enhances learning efficiency and engagement.

**Task-Based Learning:** Activities such as writing assignments and collaborative projects simulate real-world scenarios, promoting the practical application of language proficiency.

**Diverse Resource Integration:** The use of varied online materials, including videos, audio, and reading content, supports different learning styles and needs, enriching the overall learning process.

In conclusion, the research highlights the multifaceted effectiveness of blended learning approaches in enhancing English language proficiency, revealing its significant pedagogical and practical value. Chapter 5 will further explore the study's findings, reflect on its significance, and propose directions for future research.



## Chapter V

### Conclusion and Discussion

This thesis is a study of the impact of blended learning on the English language proficiency of university students, and the research methodology was a systematic literature review approach, and the research process adhered to the established guidelines for Systematic Reviews in Educational Research (Zawacki-Richter et al., 2020) and the PRISMA 2020 process guidelines by identifying the research question, developing screening criteria, developing a literature search plan, high-quality assessment of the screened research articles, coding the study, data extraction and other processes to finalize the study results. The research process and results are presented below:

#### 5.1 Purpose of the Study

#### 5.2 Research Findings

#### 5.3 Research Discussion

#### 5.4 Research Recommendations

#### 5.5 Summary

#### **5.1 Purpose of the Study**

To explore how blended learning affects students' English language proficiency.

#### **5.2 Research Findings**

##### **5.2.1 The Impacts of Blended Learning on English Listening Proficiency in Higher Education**

Blended learning, by integrating online and offline resources, has demonstrated significant effects on the English listening proficiency of students in

higher education, especially in the areas of listening comprehension, self-directed learning, technological assistance and language application. The study shows that blended learning significantly improves students' listening comprehension, technological assistance further enhances the efficiency of personalized learning, codevelops students' self-directed learning ability and motivation, improves learning engagement, and helps students apply their listening proficiency more effectively in real contexts.

### **5.2.2 The Impacts of Blended Learning on English Speaking Proficiency in Higher Education**

By combining online and offline teaching modes, blended learning significantly improves college and university students' English speaking ability, especially in terms of phonetic expression, interactive communication, independent learning and cultural adaptability, which show positive impacts. Blended learning significantly improves the accuracy and fluency of oral expression. Diversified online resources provide students with an immersive learning environment and real-life language input, which helps them accumulate vocabulary, improve their grasp of grammar and confidence in expression; the combination of online and offline teaching modes significantly improves the ability of speech perception and fluency of expression; the use of online video platforms effectively improves vocabulary mastery and the ability of grammar application, and at the same time, enhances the cultural comprehension of the students. At the same time, it also enhances students' cultural understanding and helps them express themselves more freely in real contexts.

### **5.2.3 The Impacts of Blended Learning on English Reading Proficiency in Higher Education**

Blended learning plays a significant role in improving students' English reading ability in higher education, especially in reading comprehension, independent learning, vocabulary accumulation and higher-order thinking. Blended learning significantly improved students' reading comprehension, helped them expand their vocabulary knowledge, and further enhanced their reading performance. Online resources and tools optimized the development of reading proficiency and improved students' comprehension of complex texts. In addition, blended learning enabled students to schedule their learning flexibly, developing self-management skills and learning efficiency. Blended learning also promotes students' critical thinking and higher-order reading proficiency, and significantly enhances analytical and evaluative skills. At the same time, blended learning is particularly effective in promoting low and intermediate level students, providing fair development opportunities for students at different levels.

### **5.2.4 The Impacts of Blended Learning on English Writing Proficiency in Higher Education**

Blended learning effectively improves students' English writing ability in higher education, especially in writing proficiency, independent learning ability, critical thinking and collaboration ability. Research has shown that blended learning helps students master spelling, grammar and sentence linking proficiency, improves the accuracy and fluency of written expression, and outperforms traditional instruction in topic development and vocabulary use. This model also enhanced students' independent learning proficiency, stimulated initiative and engagement, and

the analysis and discussion of texts in blended learning significantly enhanced students' critical thinking and creative expression. The application of online resources and tools further optimized writing proficiency, provided real-time feedback and collaboration opportunities, and significantly improved writing efficiency and quality.

### **5.2.5 The Impacts of Blended Learning on English Language Proficiency in Higher Education**

By integrating online and offline resources, blended learning has demonstrated a significant promotion effect on college and university students' English language proficiency in four aspects: listening, speaking, reading and writing. In listening, blended learning significantly improves students' listening comprehension, enhances the efficiency of personalized learning through technological assistance, develops students' independent learning ability and motivation, improves learning participation, and enables listening proficiency to be more effectively applied to real-life contexts. For speaking, blended learning combines online and offline teaching modes to effectively improve students' voice expression, interactive communication skills and cultural adaptability. Diversified online resources and immersive learning environments help students build vocabulary, master grammar, and gain confidence in expression, while online video platforms and real-time collaboration significantly improve speech perception and fluency, and strengthen students' ability to apply language in real-life contexts. In reading, blended learning significantly boosted students' reading comprehension, vocabulary building, and higher-order thinking. Technology tools optimize reading proficiency and improve comprehension of complex texts, while allowing students to flexibly pace their learning, develop self-management and learning efficiency, and achieve significant

gains in critical thinking and analytical proficiency, especially for low- and middle-level students, with more support and fairer development opportunities. In writing, blended learning significantly improved students' writing proficiency, independent learning, critical thinking, and collaboration. Students excelled in spelling, grammar, sentence connections, and topic development, optimizing the efficiency and quality of their writing through real-time feedback and collaborative tools, as well as stimulating creative expression and learning engagement. In conclusion, blended learning not only enhances students' English language proficiency through flexible instructional design and integration of technological resources, but also provides scientific and effective support for the overall improvement of college and university students' English language proficiency, and demonstrates unique advantages in fostering learning autonomy, stimulating interest in learning, developing higher-order thinking proficiency, and promoting cultural adaptability. This mode can meet the learning needs of students at different levels, especially providing a fair learning space for learners with limited resources. The blended learning approach has important practical value and broad application prospects for the improvement of college and university students' English language proficiency.

### **5.3 Research Discussion**

Blended learning, a new model that combines traditional classroom teaching with online learning, has shown great potential in the development of English language proficiency at the higher education level. This model improves learning efficiency by optimizing the learning process, with theoretical learning being moved online, and classroom time being focused on practice and interaction. The advantages of blended learning are particularly pronounced in English listening proficiency.

Students complete pre-class preparation through online resources, and the classroom is focused on problem-solving and interactive activities (Isayeva et al., 2020). For example, the multi-sensory experience provided by platforms such as YouTube enhances listening comprehension while also improving students' perception of cultural contexts (Abbas & Qassim, 2020; Huang, 2022). In addition, Mobile-Assisted Blended Learning (MABL) overcomes the problem of insufficient language exposure in traditional classrooms, provides students with learning opportunities anytime, anywhere, and significantly improves listening and pronunciation skills through personalized feedback (Pyo & Lee, 2022).

In oral language learning, the flipped classroom model provides students with more opportunities for authentic language interaction by studying theoretical knowledge before class and focusing on language practice in class. This model has been shown to significantly improve students' expressive ability and language fluency (Chatta & Haque, 2020). However, how to balance the content of pre-class and in-class activities and avoid students' burnout in online learning is an issue that needs to be further explored (Yang et al., 2023). Meanwhile, the integration of multimodal technologies provides new ways to improve language communication skills, but further research is needed on how to reasonably select and integrate resources to maximize teaching and learning effectiveness (Kartal & Yeşilçınar, 2023).

In terms of reading, blended learning improves self-directed learning and reading comprehension through online annotation tools and multimodal resources that help students mark and analyze content (Azmuddin et al., 2020). Although low- and middle-level students benefit more significantly, the challenge of high-level students'

in-depth learning still needs attention (Tao et al., 2024). In terms of writing, the combination of Online Collaborative Writing (OCW) and flipped classrooms significantly improved students' vocabulary complexity and writing fluency, and promoted the development of critical thinking (Ocak Kılınc & Yüksel, 2024). However, the instructional design still needs to be optimized in terms of maintaining student engagement and ensuring high-quality writing output (Kasuma et al., 2021).

The successful implementation of blended learning depends on students' self-directed learning abilities, technological proficiency, and the critical role of teachers in instructional design (Majeed & Dar, 2022). Students from different cultural backgrounds and learning levels require individualized teaching adjustments to accommodate their diverse needs (Huang, 2022). Overall, blended learning provides an innovative approach to developing English language proficiency among college students, but challenges remain in terms of instructional design, technology integration, and student engagement. Future research should focus on optimizing the application of blended learning and addressing existing issues.

## **5.4 Recommendations**

### **5.4.1 Recommendations for practice**

The application of blended learning in English learning in colleges and universities has significant advantages, but its successful implementation still needs to be optimized and improved in many aspects. Personalized learning tasks should be designed according to students' actual needs and interests, combined with tiered difficulty and life and vocational scenarios to make the learning tasks closer to the actual needs, and at the same time incorporate cross-cultural content to help students

adapt to multicultural backgrounds (Isayeva et al., 2020; Li, 2022; Huang, 2022). Technical support and teacher training are key guarantees. It is recommended to ensure the stability of the technology platform, provide students, especially those from low-income families, with the necessary equipment and network support, and strengthen teachers' special training in blended learning and flipped classroom design. There is a need to incorporate data-driven feedback tools and peer-to-peer assessment mechanisms to help students improve holistically (Kasuma et al., 2021; Iftanti, 2022; Peungcharoenkun & Waluyo, 2024). Further promotion of multimodal and mobile-assisted learning is needed. By integrating multimodal resources, such as shadowing exercises and graphic novels, as well as mobile learning tasks in authentic contexts, students' overall language proficiency can be improved. Time management instruction can be optimized to help students balance online learning and personal time, and these methods can be extended to reading and writing instruction (Kartal & Yeşilçınar, 2023; Lan, 2021; Pyo & Lee, 2022). In terms of curriculum design, the flipped classroom model is suggested to cover the areas of listening, reading and writing and incorporate reflective journal writing. It helps students to record challenges and progress in the learning process through question-guidance, improves self-assessment skills, and designs more context-based interactive activities such as simulated discussions, team projects, and cross-cultural role-plays to enhance students' actual language proficiency (Chatta & Haque, 2020; Beseghi, 2021; Zemlyanova et al.) Therefore, it is recommended that research be conducted over a longer period of time to assess the impact of blended learning on students' long-term language

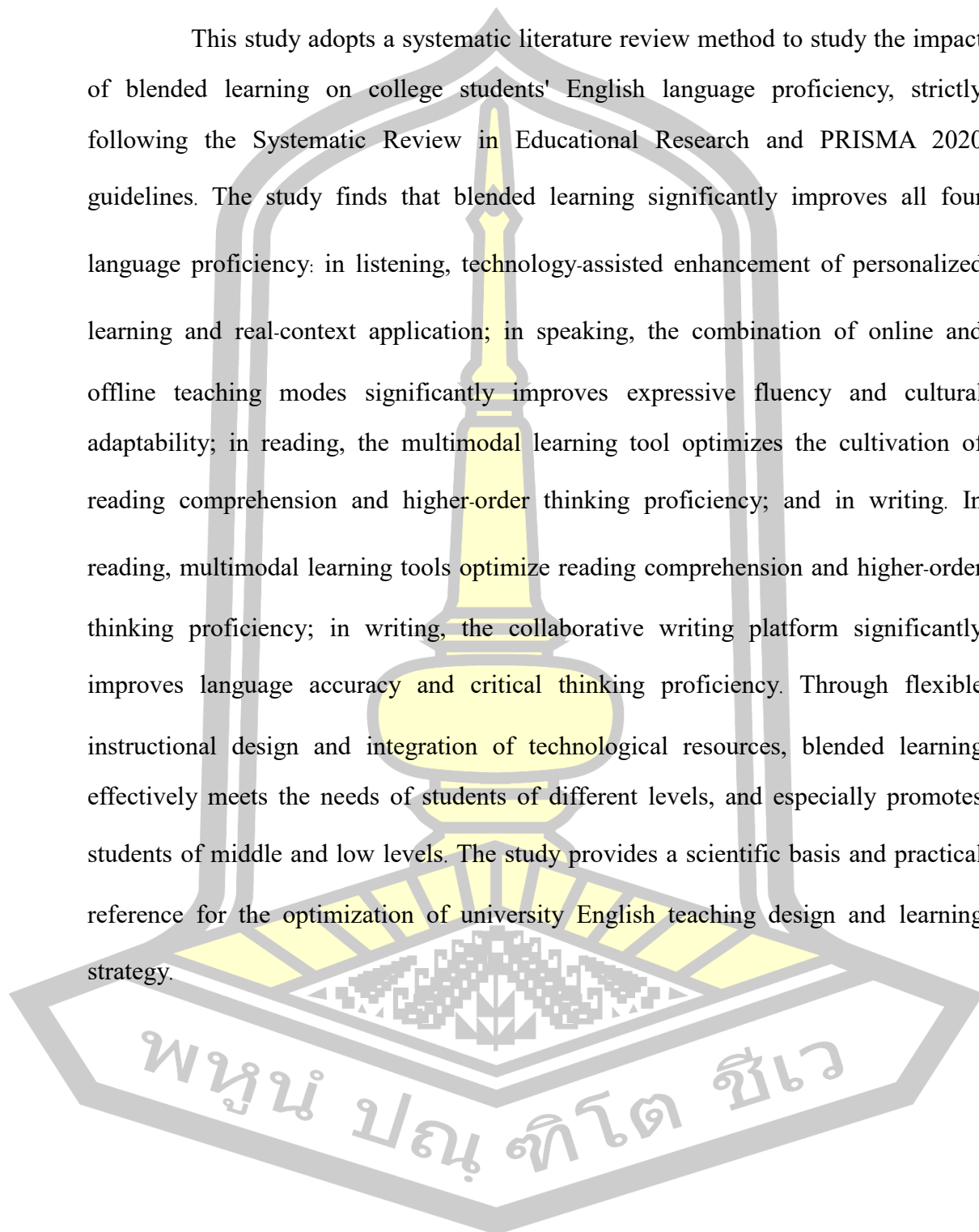
proficiency development and to promote this model to student populations of different cultural backgrounds and learning levels, as well as to incorporate artificial intelligence and deep learning technologies to provide students with dynamically adapted and personalized learning content and to reduce the unequal distribution of resources (Majeed & Dar, 2022; Pikhart & Klímová, 2020; Nassar et al.) With these improvements, blended learning will be more effective in improving students' English proficiency, while offering more possibilities for educational equity and pedagogical innovation.

#### **5.4.2 Recommendations for future research**

In addition, I have some suggestions for future researchers who study such issues. This study screens the literature only from 2020 to 2024, which is a short time span and has some limitations in the process of research, and the research time can be extended for future related studies. This study is a qualitative study, and the research method is relatively single, and quantitative research and mixed research can be added appropriately to enrich the research method and increase the authority for subsequent research. Although this study mentions artificial intelligence, there is no journal for artificial intelligence as an online learning resource, artificial intelligence is also the trend of future education development, and subsequent studies can be conducted on artificial intelligence as an online learning tool and resource. In the process of blended learning, the study of teacher level is also important, and the study for teachers should be fully considered when the offline teaching content and online resources are the same.

## 5.5 Summary

This study adopts a systematic literature review method to study the impact of blended learning on college students' English language proficiency, strictly following the Systematic Review in Educational Research and PRISMA 2020 guidelines. The study finds that blended learning significantly improves all four language proficiency: in listening, technology-assisted enhancement of personalized learning and real-context application; in speaking, the combination of online and offline teaching modes significantly improves expressive fluency and cultural adaptability; in reading, the multimodal learning tool optimizes the cultivation of reading comprehension and higher-order thinking proficiency; and in writing. In reading, multimodal learning tools optimize reading comprehension and higher-order thinking proficiency; in writing, the collaborative writing platform significantly improves language accuracy and critical thinking proficiency. Through flexible instructional design and integration of technological resources, blended learning effectively meets the needs of students of different levels, and especially promotes students of middle and low levels. The study provides a scientific basis and practical reference for the optimization of university English teaching design and learning strategy.



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## Appendix

### Appendix A: Ethical consideration



#### MAHASARAKHAM UNIVERSITY ETHICS COMMITTEE FOR RESEARCH INVOLVING HUMAN SUBJECTS

##### Certificate of Approval

Approval number: 728-752/2024

**Title :** The impacts of blended learning on English Language Proficiency in higher education:  
A systematic literature review.

**Principal Investigator :** Liu Yang

**Responsible Department :** Faculty of Education

**Research site :** Maha Sarakham Province

**Review Method :** Exemption Review

**Date of Manufacture :** 3 December 2024

**Expire :** 2 December 2025

This research application has been reviewed and approved by the Ethics Committee for Research Involving Human Subjects, Mahasarakham University, Thailand. Approval is dependent on local ethical approval having been received. Any subsequent changes to the consent form must be re-submitted to the Committee.

*Ratree S.*

(Assistant Professor Ratree Sawangjit)

Chairman

Approval is granted subject to the following conditions: (see back of this Certificate)

**Appendix B: Mixed Methods Appraisal Tool (MMAT)**

Category of study designs	Methodological quality criteria	Responses			
		Yes	No	Can't tell	Comments
Screening questions (for all types)	S1. Are there clear research questions?				
	S2. Do the collected data allow to address the research questions?				
	Further appraisal may not be feasible or appropriate when the answer is 'No' or 'Can't tell' to one or both screening questions.				
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question?				
	1.2. Are the qualitative data collection methods adequate to address the research question?				
	1.3. Are the findings adequately derived from the data?				
	1.4. Is the interpretation of results sufficiently substantiated by data?				
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?				
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed?				
	2.2. Are the groups comparable at baseline?				
	2.3. Are there complete outcome data?				
	2.4. Are outcome assessors blinded to the intervention provided?				
	2.5. Did the participants adhere to the assigned intervention?				
3. Quantitative non randomized	3.1. Are the participants representative of the target population?				
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?				

	3.3. Are there complete outcome data?				
	3.4. Are the confounders accounted for in the design and analysis?				
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?				
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question?				
	4.2. Is the sample representative of the target population?				
	4.3. Are the measurements appropriate?				
	4.4. Is the risk of nonresponse bias low?				
	4.5. Is the statistical analysis appropriate to answer the research question?				
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?				
	5.2. Are the different components of the study effectively integrated to answer the research question?				
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?				
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?				
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?				

### Appendix C: MMAT quality assessment

Literature number	2	3	4	7	24
Author	Oksana Isayeva, Myroslava Shumylo, Irena Khmilyar, Iryna Myskiv, Oksana Mylyk	Tien Thinh Vu, Diem Bich Huyen Bui	Erna Iftanti	Ophelia H. L. Huang	Patcharin Satchayad, Sasima Charubusp
Year	2020	2020	2022	2022	2023
Type of study	Mixed Methods Research	Mixed Methods Research	Mixed Methods Research	Mixed Methods Research	Mixed Methods Research
S1: Does the study have a clear research question?	Yes	Yes	Yes	Yes	Yes
S1 Comments	The study explicitly explored the effectiveness of blended learning in teaching foreign languages in medical schools.	The study clearly explored the impact of blended learning on college and university students' writing proficiency.	The study examined the impact of online learning on college and university students' English speaking ability.	The study clearly explored the impact of the use of MOOCs in EFL courses on students' self-learning and intercultural communication proficiency.	The study analyzed the impact of corpus-based writing instruction on Thai students.

S2: Are the data sufficient to answer the research question?	Yes	Yes	Yes	Yes	Yes
S2 Comments	The data contains quantitative pre-test and post-test results, as well as qualitative feedback from students on their learning methods.	The data contains quantitative pre-tests and post-tests, as well as student feedback on blended learning.	The data consisted of online questionnaires responses covering the use of several online oral communication tools.	Data were obtained from questionnaires and student self-assessments covering self-learning proficiency and cultural communication proficiency.	Data included pre- and post-tests, questionnaires and interviews.
5.1: Are there good reasons to use mixed methods?	Yes	Yes	Yes	Yes	Yes
5.1 Comments	The study used a mixed-methods approach that included both quantitative and qualitative data to comprehensively assess how students learn and feel.	The study used a mixed-methods approach that included an experimental design and questionnaire feedback to comprehensively assess writing proficiency improvement.	Use of mixed methods, including questionnaires and data analysis, to understand speaking proficiency enhancement.	Mixed methods help to fully analyze the impact of students' self-learning backgrounds and language proficiency.	Mixed methods are effective in demonstrating improved writing proficiency.

5.2: Are quantitative and qualitative components effectively integrated?	Yes	Yes	Yes	Yes	Yes
5.2 Comments	The benefits and challenges of blended learning are comprehensively demonstrated in conjunction with student test results and feedback on the course.	The combination of student writing scores and positive feedback on the course demonstrates the full impact of blended learning.	Student's feedback and teacher's feedback data are effectively combined to fully demonstrate the effect of speaking improvement under the online learning model.	A combination of quantitative and qualitative data presents students' feedback and actual competency performance on MOOCs.	A combination of quantitative and qualitative data reveals writing progress.
5.3: Are the results of quantitative and qualitative integration properly interpreted?	Yes	Yes	Yes	Yes	Yes
5.3 Comments	The combination of quantitative language proficiency improvement data and student feedback was clearly explained.	The quantitative results showed a significant improvement in writing proficiency and the questionnaire feedback supported this result.	Quantitative data shows that students' self-confidence and proficiency in speaking proficiency have improved.	Quantitative data and student interviews verified that MOOCs improve English communication proficiency.	The results clearly demonstrate the positive effects of corpus teaching.

5.4: Has the discrepancy between quantitative and qualitative results been resolved?	Yes	Yes	Yes	Yes	Yes
5.4 Comments	Quantitative data supports qualitative feedback, such as increased demand for spoken interaction.	There were no significant differences between the quantitative and qualitative data, both of which support the effectiveness of blended learning.	Student feedback and data analysis results support each other, indicating the effectiveness of this online teaching method.	There were no significant differences and the data consistently supported the validity of MOOCs.	Consistency is high and supports the use of corpora in writing instruction.
5.5: Do the methodology components meet quality standards?	Yes	Yes	Yes	Yes	Yes



5.5 Comments	The methodology for both the quantitative and qualitative components meets quality standards, and the investigation and analysis are transparent and reasonable.	The methodology was well designed and the experimental and control group designs met the requirements of the study.	The research process was well designed with sufficient data to help answer the research questions.	The methodology was well designed and the data were adequate and met the requirements of the study.	The methodological design met the study criteria.
Concerning listening?	Yes	No	No	Yes	No
Listening Specific description	Listening proficiency improved from 75% to 86%.	No specific data on the effect on hearing.	No data on listening proficiency, study focused on speaking.	MOOCs videos enhance students' mastery of listening proficiency.	Listening proficiency were not addressed.
Concerning speaking?	Yes	No	Yes	Yes	No

Speaking Specific description	Oral proficiency increased from 64% to 82%.	The study did not address the enhancement of speaking proficiency.	Online learning improves students' English speaking fluency and interaction.	Self-assessment showed improvement in oral expression and intercultural communication proficiency.	No oral skills were addressed.
Concerning reading?	Yes	No	No	No	No
Reading Specific description	Reading proficiency improved from 84% to 89%.	No reading proficiency improvement was addressed, focusing on writing.	Improvement of reading proficiency was not addressed.	Only the ability for students to self-pace and improve reading comprehension was mentioned without elaboration.	Reading proficiency were not addressed.
Concerning writing?	Yes	Yes	No	No	Yes
Writing Specific description	Writing proficiency improved from 57% to 79%.	Significant improvement in writing proficiency, especially in topic development, structure and vocabulary use.	Writing proficiency were not addressed.	Writing proficiency were not addressed.	showed that corpus instruction significantly improved students' writing proficiency.

Whether recommended for inclusion in the study	Yes	Yes	Yes	Yes	Yes
synthesized assessment	This literature provides complete data and analysis that demonstrates the effectiveness of blended learning in improving the four skills of listening, speaking, reading, and writing, and is highly relevant to your research question and meets the criteria to be recommended for inclusion as a core reference.	The literature focuses on the improvement of writing proficiency and does not provide data support for listening, speaking and reading. It can be used as a reference for the effect of blended learning on writing.	This study demonstrates in detail the enhancement of speaking proficiency in the online mode and is suitable as a reference for the analysis of speaking proficiency, but does not cover listening, reading and writing.	This literature reveals the contribution of MOOCs to students' intercultural communication and English listening, speaking, and reading proficiency, which is suitable as a reference for intercultural and language proficiency enhancement.	Suitable as a reference for exploring corpus-based writing instruction.
Literature number	26	28	32	34	40
Author	Jihoon Pyo, Chung Hyun Lee	Dawson R. Lewis III, Troy Y. Lewis	Jiajia Li	Ruhil Amal Azmuddin, Nor Fariza Mohd Nor, Afendi Hamat	Lixuan Sun, Adelina Asmawi

Year	2022	2021	2024	2024	2023
Type of study	Mixed Methods Research	Mixed Methods Research	Mixed Methods Research	Mixed Methods Research	Mixed Methods Research
S1: Does the study have a clear research question?	Yes	Yes	Yes	Yes	Yes
S1 Comments	The research question was clearly defined and focused on the effectiveness of MABL in second language listening learning, with specific attention to academic engagement, task completion rates, and listening proficiency improvement.	The study focused on the effects of a multimodal reading intervention on low-level EFL students in Japan.	The clarity of the research question explores the effectiveness of the flipped classroom model enhanced by big data in improving college and university students' English literacy.	The research question was clear and explored the role of digital annotation tools in enhancing online reading comprehension, focusing on how students can utilize annotation tools to enhance their comprehension of technical English materials.	The study examines the impact of WeChat-based instruction on business English writing.

S2: Are the data sufficient to answer the research question?	Yes	Yes	Yes	Yes	Yes
S2 Comments	There was sufficient data, including questionnaires, task transcripts, LC tests, and interviews, and the diversity of the data supported in-depth answers to the research questions.	Data include reading achievement and cross-cultural awareness, combining qualitative and quantitative data.	Sufficient data, including pre- and post-test data from the experimental and control groups, and the results of the neural network model assessment, were available to effectively answer the research questions.	Adequate data, using online annotated data and focus group interviews, supported in-depth answers to the research questions.	The data included pre- and post-tests and interviews showing improved writing proficiency.
5.1: Are there good reasons to use mixed methods?	Yes	Yes	Yes	Yes	Yes

5.1 Comments	A mixed-method approach was used to gain a comprehensive understanding, with quantitative data providing overall trends and qualitative data complementing specific experiences of engagement and task completion rates.	Mixed methods are well-designed and suitable for analyzing the effects of multimodal interventions on reading.	The use of a mixed methods approach was designed to more fully assess the effectiveness of the flipped classroom through quantitative analysis (GA-NN model) and qualitative data (feedback analysis).	The use of a mixed methods approach was intended to provide a more comprehensive understanding of students' experiences with the annotation tool, supporting the findings of the qualitative interviews with quantitative data.	A mixed methods approach reveals the effectiveness of WeChat in supporting the teaching model.
5.2: Are quantitative and qualitative components effectively integrated?	Yes	Yes	Yes	Yes	Yes

5.2 Comments	Quantitative results were supplemented by qualitative data from interviews and reflective journals, which were well integrated and provided a comprehensive perspective.	Effective integration of quantitative and qualitative components reveals increased reading achievement.	Quantitative and qualitative data were effectively integrated, and the GA-NN model provided a quantitative assessment of learning outcomes, while qualitative feedback supported the model results.	Quantitative and qualitative data were well integrated, and qualitative interviews complemented the quantitative analysis results of the online annotated data, providing deeper understanding.	The combination of quantitative and qualitative data demonstrated significant writing effects.
5.3: Are the results of quantitative and qualitative integration properly interpreted?	Yes	Yes	Yes	Yes	Yes
5.3 Comments	The study explains in detail the correlation between quantitative and qualitative results by comparing data from the experimental and control groups, clearly demonstrating the effects of MABL.	The results are explained in detail and demonstrate the impact of different cultural backgrounds on learning.	The study rationalizes the strengths of quantitative modeling and the supporting role of qualitative feedback to help understand the impact of flipped classrooms on student learning outcomes.	The study clearly explains the impact of annotation tools on comprehension, and the quantitative and qualitative results are consistent and effectively support the findings.	Data is well explained and student feedback is positive.

5.4: Has the discrepancy between quantitative and qualitative results been resolved?	Yes	No	Yes	Yes	Yes
5.4 Comments	The quantitative and qualitative data performed consistently, with the qualitative data further explaining the differences in behavioral and cognitive engagement, with no significant differences requiring further processing.	There were some inconsistencies between quantitative and qualitative data that were not adequately addressed.	The quantitative modeling was consistent with the qualitative feedback results, and there were no significant differences requiring further interpretation.	Both quantitative data and interview feedback indicated positive effects of the annotation tool, with no significant differences.	Data consistently support instructional effectiveness.
5.5: Do the methodology components meet quality standards?	Yes	Yes	Yes	Yes	Yes

5.5 Comments	Both the quantitative and qualitative components met quality standards, the questionnaires were highly reliable, the interview and diary data were in-depth, and the collection and analysis of qualitative data was systematically designed.	Data collection methods and analysis meet quality standards.	The study design and data analysis met quality standards, and the collection and analysis of quantitative and qualitative data were systematically designed and rigorously validated.	The quantitative and qualitative components were rigorously designed and the data were analyzed in an appropriate manner, meeting the quality standards for mixed methods research.	The methodology is well designed to meet quality standards.
Concerning listening?	Yes	No	No	No	No
Listening Specific description	The study clearly analyzed the effect of MABL on the improvement of listening proficiency, which was significantly improved in the experimental group, and the data supported the effectiveness of MABL.	Listening proficiency were not addressed.	The study focused primarily on literacy proficiency improvement and did not provide listening data to support it.	The study focused only on reading comprehension and did not address the assessment of listening proficiency.	Listening proficiency were not addressed.
Concerning speaking?	No	No	No	No	No

Speaking Specific description	This study focused on listening proficiency and did not address the assessment of speaking proficiency.	No oral proficiency were addressed.	This study deals only with literacy proficiency and does not include data on speaking proficiency.	The study did not include data collection on speaking proficiency.	No oral proficiency were addressed.
Concerning reading?	No	Yes	Yes	Yes	No
Reading Specific description	The study focused on listening and did not assess reading proficiency.	The data shows a significant increase in reading achievement	The quantitative results were validated by data showing that the flipped classroom significantly improved students' reading proficiency with the support of big data.	The data suggests that annotation tools help to enhance students' comprehension of technical English materials, and that there is a significant relationship between the type of annotation and comprehension effects.	Reading proficiency were not addressed.
Concerning writing?	No	No	Yes	No	Yes

Writing Specific description	This study focused only on listening learning and did not include data to support writing proficiency.	Writing proficiency were not addressed.	The study found that the flipped classroom instructional model had a positive effect on student writing improvement, and the data supported the progress of writing proficiency.	This study focused only on reading comprehension and did not address the measurement of writing proficiency.	Demonstrates significant improvement in writing proficiency.
Whether recommended for inclusion in the study	Yes	Yes	Yes	Yes	Yes
synthesized assessment	The study provides a comprehensive analysis of the effects of MABL and is suitable for use in exploring the use of blended learning in listening instruction, in line with your research interests.	This study reveals the potential of a multimodal intervention to enhance reading achievement and is suitable for generalization.	The study provides empirical data on literacy skills improvement in a flipped classroom setting, which is suitable for use in exploring the effectiveness of big data-supported instructional models in English language teaching.	This study provides significant empirical support for the use of digital annotation tools in technical English reading comprehension and is suitable for inclusion in mixed-methods research and technology-assisted learning studies.	Suitable as a reference for the application of WeChat in business English writing teaching.

Literature number	44	47	52
Author	Burcu Ocak Kılınc, Hatice Gülru Yüksel	Tipaya Peungcharoenkun	Vita Bezliudna et al.
Year	2024	2024	2021
Type of study	Mixed Methods Research	Mixed Methods Research	Mixed Methods Research
S1: Does the study have a clear research question?	Yes	Yes	Yes
S1 Comments	The impact of online collaborative writing on EFL students' writing proficiency was examined.	The study analyzed the role of peer feedback in EFL writing.	The study examines the effectiveness of blended learning in a Ukrainian graduate English program.
S2: Are the data sufficient to answer the research question?	Yes	Yes	Yes
S2 Comments	The data include pre and post-tests and student interviews that demonstrate the effectiveness of online writing collaboration.	Data from questionnaires, interviews, and analysis of student work demonstrated writing enhancement effects.	The data includes questionnaires and course grades that demonstrate the impact of blended learning on the student learning experience.
5.1: Are there good reasons to use mixed methods?	Yes	Yes	Yes

5.1 Comments	Mixed methods help reveal the complexity-enhancing effects of collaborative writing.	The mixed-methods approach demonstrates the multifaceted ways in which peer feedback can support students' writing.	The blended approach provides comprehensive data support that demonstrates students' overall perceptions of blended learning.
5.2: Are quantitative and qualitative components effectively integrated?	Yes	Yes	Yes
5.2 Comments	Quantitative and qualitative data demonstrated an integrated improvement in writing proficiency.	The combination of quantitative and qualitative data demonstrates the improvement of students' writing proficiency.	The combination of quantitative and qualitative data reveals the diversity of learning outcomes and experiences.
5.3: Are the results of quantitative and qualitative integration properly interpreted?	Yes	Yes	Yes
5.3 Comments	Quantitative and qualitative data are mutually supportive and results are adequately interpreted.	The data is well explained and reveals the importance of feedback in learning.	The data analysis demonstrates the positive effects of blended learning on English language learning.
5.4: Has the discrepancy between quantitative and qualitative results been resolved?	Yes	Yes	Yes
5.4 Comments	The consistency of the results was high and significantly improved the quality of the writing.	Data results were consistent and support the validity of peer feedback.	High consistency of data presentation supports the effectiveness of blended learning.
5.5: Do the methodology components meet quality standards?	Yes	Yes	Yes

5.5 Comments	The methodological design met the study criteria and data collection was adequate.	Data collection was comprehensive and met the study design criteria.	The data met the study design criteria and provided comprehensive coverage of the evaluations.
Concerning listening?	No	No	No
Listening Specific description	Listening proficiency were not addressed.	Listening proficiency were not addressed.	Listening proficiency were not addressed.
Concerning speaking?	No	No	No
Speaking Specific description	No oral proficiency were addressed.	No oral skills were addressed.	No oral skills were addressed.
Concerning reading?	No	No	Yes
Reading Specific description	Reading proficiency were not addressed.	Reading proficiency were not addressed.	The data show that blended learning has a positive impact on reading comprehension.
Concerning writing?	Yes	Yes	Yes
Writing Specific description	Demonstrate significant improvement in writing proficiency.	The data show an increase in writing fluency and complexity.	Writing proficiency improve significantly.
Whether recommended for inclusion in the study	Yes	Yes	Yes
synthesized assessment	Suitable as a reference for the impact of online collaborative writing on student writing complexity and fluency.	Suitable as a reference for the application of peer feedback in EFL writing courses.	Suitable as a reference for the application of blended learning to English language learning in higher education.

Literature number	15	16	17	19	23
Author	Bala Swamy Chatta	Shaidatul Akma Adi Kasuma, Ayuni Akhiar, Haeza Haron	Yang Jiao	Lu Li	Nawal Fadhil Abbas, Tabarek Ali Qassim
Year	2021	2021	2023	2022	2020
Type of study	quantitative research	quantitative research	quantitative research	quantitative research	quantitative research
S1: Are there clear research questions?	Yes	Yes	Yes	Yes	Yes
S1 Comments	The study examined the effectiveness of the flipped classroom in enhancing students' paragraph writing proficiency with a clear research question.	The study explored the motivation, self-efficacy and attitudes of Malaysian university students in online English language learning.	The research question is clear and aims to explore the role of WeChat in Chinese college and university students' English learning, focusing on how WeChat use affects motivation, self-confidence, and learning outcomes in English learning.	The research question is clear and focuses on how an online speaking training model designed through integrated tasks can improve students' oral English interaction and communication proficiency in university English teaching.	The study examines the role of YouTube in English language learning.
S2: Do the collected data allow to address the research questions?	Yes	Yes	Yes	Yes	Yes

S2 Comments	The data are based on students' pre-test and post-test writing performance and fully support the analysis of the research questions.	Data were collected from a questionnaire survey of 270 college and university students analyzing a variety of factors of online learning.	The amount of data was sufficient, with a sample of 539 Chinese university students, and the data collected was able to effectively support the answers to the research questions.	The data collected included measures of students' language learning strategies, oral communication proficiency, and the data were able to adequately answer the research questions, especially regarding the improvement of interaction effects.	Student feedback data based on questionnaires.
4.1: Is the sampling strategy relevant to address the research question?	Yes	No	Yes	Yes	No
4.1 Comments	The sample strategy was appropriate and covered multiple grades of college and university students, meeting the needs of the experimental design.	The study did not use mixed methods and mainly used questionnaires for data collection.	Random sampling was used, the survey link was distributed through a WeChat group to cover multiple grade levels, and the sampling strategy was appropriate for the study objectives.	The study used a sample of university English majors, which is consistent with the research questions and ensures the applicability of the results.	The study was primarily based on quantitative data and did not use mixed methods.

4.2: Is the sample representative of the target population?	Yes	No	Yes	No	No
4.2 Comments	The sample was representative and covered students at different writing levels.	No qualitative analysis was combined and the data were mainly statistical results from the questionnaire.	The sample covers different grades and majors of Chinese college and university students, which is a good representation of the Chinese college and university student population.	The sample consisted of 105 students in three classes, which is small but includes students of different ability levels and is representative but not extensive.	The data were the result of a single questionnaire count and lacked qualitative integration.
4.3: Are the measurements appropriate?	Yes	No	Yes	Yes	No
4.3 Comments	A writing rating scale was used, and the measurement tool was appropriate for assessing the improvement of writing proficiency.	There is a lack of in-depth qualitative interpretation of the results of the quantitative data.	A questionnaire with high reliability (Cronbach alpha value over 0.8) was used and the measurement instrument was appropriate and met the needs of the study.	Questionnaires and speaking tests were used to measure language learning strategies and communication proficiency, respectively, and the measurement instruments were appropriate for the purpose of the study.	The results are single data trends and lack qualitative interpretation.

4.4: Is the risk of nonresponse bias low?	No	No	Yes	Yes	No
4.4 Comments	The treatment of non-response bias is not detailed and there may be a risk of bias.	Based on quantitative results only, no comparative analysis was performed.	The response rate of 67.4% is relatively high and helps to minimize the effect of non-response bias.	Response rates were high, all students participated in the study, and the risk of nonresponse bias was low.	The data are single quantitative data with unresolved variability.
4.5: Is the statistical analysis appropriate to answer the research question?	Yes	Yes	Yes	Yes	Yes
4.5 Comments	Data were analyzed in an appropriate way, using t-tests to analyze differences between pre- and post-tests.	The quantitative analysis met the criteria.	Methods such as multiple regression analysis were used, and the analysis was appropriate and able to effectively explain the relationship between WeChat use and English learning.	Social network analysis was used to analyze the structure of spoken interaction, and the statistical analysis method was appropriate to support the findings.	The questionnaire design meets the criteria.

Concerning listening?	No	No	No	Yes	Yes
Listening Specific description	Listening proficiency were not addressed.	No specific listening proficiency were addressed.	The study did not include specific data support regarding listening proficiency improvement .	Listening proficiency are integrated with reading in the "information entry" phase, and data support their role in interactive tasks.	YouTube support on listening proficiency is remarkable.
Concerning speaking?	No	Yes	No	Yes	Yes
Speaking Specific description	No oral skills were addressed.	Student feedback shows that online learning improves speaking confidence and interaction proficiency.	While the study noted that microsoft use may increase speaking confidence, there is no direct data to support improved speaking ability.	Oral language is the main assessment item and the data fully demonstrates the progress of students in terms of oral fluency and accuracy.	Students' oral expression was enhanced. The study pointed out that students were able to improve fluency and accuracy by imitating the expressions in the video during the learning process.

Concerning reading?	No	No	Yes	No	No
Reading Specific description	Reading proficiency were not included as part of the study.	Reading proficiency were not addressed.	The research data suggests that WeChat use increases students' motivation and confidence in reading, and that students generally have a positive attitude towards reading English materials on WeChat.	Reading is used as part of the "information input" to help students understand the content of the discussion topic.	The article does not directly analyze reading proficiency in depth
Concerning writing?	Yes	No	Yes	No	No
Writing Specific description	The data shows a significant improvement in writing proficiency after flipped classroom instruction.	Writing proficiency were not addressed.	The data showed that WeChat use had a positive impact on students' English writing proficiency, with students showing higher motivation and confidence in writing.	The study did not address writing proficiency.	Writing proficiency were not addressed.

Whether recommended for inclusion in the study	Yes	Yes	Yes	Yes	Yes
synthesized assessment	<p>The study effectively demonstrated the role of the flipped classroom in improving paragraph writing proficiency and is suitable for generalization.</p>	<p>This study examines the indirect contribution of online learning to speaking proficiency and is suitable for use as a reference for the analysis of motivation and attitudes towards learning English online.</p>	<p>The study has a high depth of analysis on WeChat and English language learning and has good data reliability, but it does not meet the research needs of blended learning. It is recommended that literature more in line with the topic of blended learning be included.</p>	<p>The literature fully demonstrates how the design and implementation of online speaking training can enhance the English communication skills of college and university students, and provides a high reference value for application despite the limited scope of the sample.</p>	<p>Suitable for reference as a multimedia tool for supportive roles in listening and reading.</p>

Literature number	29	30	33	39
Author	En-Minh Lan	Maria Zemlyanova and others	Yanan Tao	Fatima Rasheed Al-Qeyam, Khaled Ismail Alnajjar
Year	2022	2022	2024	2020
Type of study	quantitative research	quantitative research	quantitative research	quantitative research
S1: Are there clear research questions?	Yes	Yes	Yes	Yes
S1 Comments	The research question was clearly defined to explore the differences in the effects of CAPT and MAPT on college and university students' English pronunciation proficiency, covering aspects such as academic motivation and application effects.	The study explicitly explored the effectiveness of VoiceThread in Russian students' spoken English.	The research question was clear and aimed to explore the impact of a blended teaching model on the EFL acquisition of university students, with a specific focus on various aspects of language proficiency.	The research question was clear and explored the potential impact of a blended teaching model in improving morphological knowledge and reading comprehension among Jordanian undergraduates.
S2: Do the collected data allow to address the research questions?	Yes	Yes	Yes	Yes

S2 Comments	The data were sufficient and contained pre-tests, post-tests, questionnaires and interviews that were able to effectively answer the research questions and support comparative analyses of the CAPT and MAPT.	Data sources included student questionnaires and performance tests that supported the responses to the research questions.	The amount of data was sufficient and analytical methods such as pre- and post-tests, quantile regression and multiple linear regression were used to help answer the research questions adequately.	Sufficient data, including pre-test and post-test scores for both the control and experimental groups, were available to effectively assess the impact of blended instruction on morphological knowledge and reading comprehension.
4.1: Is the sampling strategy relevant to address the research question?	Yes	Yes	Yes	Yes
4.1 Comments	The sampling covered college and university English majors, which was consistent with the research questions and ensured the applicability of the results to the target population.	The sample strategy was reasonable and Russian university students were selected for the study.	The study used a sound sample selection strategy to ensure that the sample was representative of the EFL student population and suitable for use in answering the research questions.	The study selected samples through a rational grouping strategy (experimental and control groups) suitable for assessing the effectiveness of the teaching methods.
4.2: Is the sample representative of the target population?	Yes	Yes	Yes	No

4.2 Comments	The sample consisted of 63 university students from southern Taiwan (31 control group and 32 experimental group), which is representative and applicable to the inference of general conclusions.	The sample was representative and included Russian university students from different backgrounds.	The sample included students from multiple colleges and universities, which is representative and can be applied to a broad group of college and university students.	The sample consisted of 50 university students and is applicable to the Jordanian EFL learning environment, but has limited representation in the wider EFL context.
4.3: Are the measurements appropriate?	Yes	Yes	Yes	Yes
4.3 Comments	Pronunciation accuracy and fluency were measured using the MyET test software, supplemented by questionnaires and interviews, and the measurement tools were reliable and appropriate to the needs of the study.	Measurement tools (questionnaires and pronunciation scores) are appropriate for assessing students' oral performance.	Standardized tests and scales were used, and the measurement instruments were appropriate and reliable for assessing language acquisition.	Using standardized tests and researcher-designed reading comprehension tests, the test instruments were appropriate and reliable and suitable for assessing morphological knowledge and reading comprehension.

4.4: Is the risk of nonresponse bias low?	Yes	No	Yes	Yes
4.4 Comments	Response rates were high, with all participants completing the tests and surveys, and the risk of nonresponse bias was low.	The treatment of non-response bias is not specified and may be subject to some bias.	Response rates were high, with the majority of participants completing all tests and questionnaires and a low risk of nonresponse bias.	Participants all completed the test with a low risk of nonresponse bias.
4.5: Is the statistical analysis appropriate to answer the research question?	Yes	Yes	Yes	Yes
4.5 Comments	Using t-test and ANOVA analysis methods, the statistical analysis was reasonable and effectively supported the findings.	Data were analyzed in an appropriate way, using descriptive statistical analysis and questionnaire scoring.	Using multiple linear regression and quantile regression methods, the statistical analysis was appropriate and supported a detailed interpretation of the data.	Using ANCOVA analysis, the comparison of the two sets of data is appropriate and can effectively interpret the results of the experiment.
Concerning listening?	Yes	No	Yes	No

Listening Specific description	Listening is one of the key goals of speech training.	Listening proficiency were not addressed.	The data show that blended instruction has a positive impact on listening proficiency, especially in the areas of comprehension and attention enhancement.	The study focused on morphological knowledge and reading comprehension and did not address assessment of listening proficiency.
Concerning speaking?	Yes	Yes	No	No
Speaking Specific description	The data show that MAPT has a significant improvement in oral pronunciation accuracy and fluency, and specific data support its effectiveness.	The data demonstrates a significant improvement in students' oral expression.	for obviously involving spoken language.	This study did not include data on oral language proficiency and focused primarily on reading comprehension and morphological knowledge.
Concerning reading?	No	No	Yes	Yes
Reading Specific description	Assessment of reading proficiency was not included in this study.	Reading proficiency were not addressed.	The data support the positive impact of blended instruction on reading comprehension and speed, especially in terms of accuracy of information extraction.	The data showed a significant increase in reading comprehension in the experimental group, supporting the positive impact of blended instruction on reading comprehension.
Concerning writing?	No	No	Yes	No

Writing Specific description	The study did not address data collection on writing proficiency.	Writing proficiency were not addressed.	The results showed writing skills improved in a blended learning environment and students' logical expression and syntactic complexity improved.	The study did not address the improvement or assessment of writing proficiency.
Whether recommended for inclusion in the study	Yes	Yes	Yes	Yes
synthesized assessment	This study provides valuable data support on the effectiveness of mobile articulation training and a better analysis of the difference between the effects of CAPT and MAPT, which is suitable for inclusion in research on articulation teaching.	This study demonstrates the effectiveness of VoiceThread in enhancing students' oral performance and is recommended for instructional practice.	The study comprehensively analyzed the effect of blended teaching on the enhancement of each EFL proficiency of listening, speaking, reading, and writing, and the data support its value in teaching English at the university level, making it suitable for inclusion in the study.	The study provides empirical support for the effects of blended instruction on morphology and reading comprehension, and the data are reliable and suitable for use in exploring the effects of EFL teaching methods.

Literature number	41	42	45	48
Author	Misbah Majeed, Fatima Rehan Dar	Kirsi Korkealehto, Minna Lakkala, Auli Toom	Yousef Zrekat	Ian Douglas Fischer
Year	2022	2021	2021	2022
Type of study	quantitative research	quantitative research	quantitative research	quantitative research
S1: Are there clear research questions?	Yes	Yes	Yes	Yes
S1 Comments	The research question was clear and explored the effects of adopting a blended learning model in the ESL classroom.	The research question was clear and focused on students' perceptions of engagement and oral interaction in a blended learning language course.	The study examines the effectiveness of blended learning in English language learning at the Arab Open University.	The research question was clear and explored the effectiveness of online collaboration in enhancing EFL students' oral learning proficiency.
S2: Do the collected data allow to address the research questions?	Yes	Yes	Yes	Yes
S2 Comments	Sufficient data, including pre-test and post-test data and feedback questionnaires from 499 students, were able to support the analysis and answers to the research questions.	Data were derived from open-ended questions in student learning journals and online questionnaires to support in-depth exploration of the research questions.	The data contains pre- and post-test scores and student feedback demonstrating learning outcomes.	Sufficient data, including pre-tests and post-tests, as well as detailed records of learning behaviors in each group, enable effective assessment of the impact of different pedagogical approaches on learning outcomes.

4.1: Is the sampling strategy relevant to address the research question?	Yes	Yes	No	Yes
4.1 Comments	The sample was selected from ESL students at a number of private universities, which is consistent with the target group of the study and representative of learning in that educational setting.	The sample consisted of 22 first-year students at the Finnish University of Applied Sciences, suitable for studying language engagement and perception of interaction in a blended learning model.	The study was based on quantitative data analysis only and did not use mixed methods.	The sample consisted of 54 university students and was divided into three groups (PFG, RFG, TC), which is a reasonable sampling strategy and suitable for exploring the effects of different teaching methods.
4.2: Is the sample representative of the target population?	No	No	No	No
4.2 Comments	The sample focused on private university students, which is a good representation, but may have limited generalizability to the broader ESL population.	Although the sample size is small, it reflects the diversity of the target group, including students of different ages and academic backgrounds.	Lack of integrated analysis of quantitative and qualitative data.	The sample size is small, but contains detailed records of various types of learning behaviors, and is able to reflect to some extent the learning patterns of the broader EFL student population.
4.3: Are the measurements appropriate?	Yes	Yes	No	Yes

4.3 Comments	A CEFR-compliant level B2 language test was used and expertly reviewed to ensure the reliability and validity of the measurement instrument.	Using open-ended questions in learning journals and questionnaires, the methodology lends itself to qualitative research that captures students' subjective feelings.	The results are simple to analyze and lack depth of interpretation.	Using a simulated IELTS speaking test and online learning behavior analysis, the tool is effective and appropriate for assessing speaking progress.
4.4: Is the risk of nonresponse bias low?	Yes	Yes	No	Yes
4.4 Comments	High questionnaire and test completion and low risk of non-response bias.	The study obtained high response rates with complete data and low risk of nonresponse bias.	The data is presented in a single format and is not compared from multiple perspectives.	All students completed the study process with a low risk of nonresponse bias.
4.5: Is the statistical analysis appropriate to answer the research question?	Yes	No	Yes	Yes
4.5 Comments	PLS-SEM method and paired samples t-test were used and statistical analysis was appropriate and helped to test the research hypothesis.	As a qualitative study, statistical analysis was not used, but rather content analysis methods were used to process and interpret the data on students' learning experiences.	The questionnaires and tests were well designed and met the study criteria.	The t-test and ANOVA were used, and the statistical methods were reasonable and able to effectively compare the differences in learning outcomes between the groups.

Concerning listening?	Yes	No	No	No
Listening Specific description	The data show the positive effect of blended learning on the improvement of listening comprehension.	The study focused primarily on overall student engagement and perceptions of oral interaction, with no data on specific listening proficiency.	Listening proficiency were not addressed.	The study focused on speaking proficiency and did not address the collection and analysis of listening data.
Concerning speaking?	Yes	Yes	No	Yes
Speaking Specific description	Through classroom discussions and online interactions, students have improved their English speaking proficiency in English	The data showed that the oral interaction tasks promoted a sense of student engagement, especially during video calls and classroom group interactions.	No oral skills were addressed.	Using a simulated IELTS speaking test, the results showed that the PFG and TC significantly outperformed the RFG in terms of oral learning performance.
Concerning reading?	No	No	Yes	No
Reading Specific description	There is no explicit reference to data.	The study did not address specific assessments of reading proficiency, focusing primarily on engagement and interaction.	The data shows that blended learning has a positive impact on reading comprehension.	The study did not address specific data analysis of reading proficiency.

Concerning writing?	No	No	Yes	No
Writing Specific description	The study did not address writing proficiency and focused on overall language comprehension and motivation to learn.	Data on writing proficiency were not included in this study.	Specific reference was made to the improvement of writing proficiency, such as completing activities such as paragraph writing, peer feedback and error analysis through an online platform	The study did not address the assessment of writing proficiency.
Whether recommended for inclusion in the study	Yes	Yes	Yes	Yes
synthesized assessment	The study demonstrates the effectiveness and potential of blended learning models for application in ESL teaching and learning, provides useful empirical support, and the data analysis is reliable and suitable for further exploration of EFL pedagogy.	The study analyzes in detail the positive effects of engagement on speaking interactions, and the data comes from students' reflections and feedback on their learning, providing strong support for designing more engaging language courses.	Suitable for exploring the effectiveness of blended learning in English courses at the Arab Open University.	The study reveals the advantages of online collaboration and synchronous learning in oral language learning, with adequate data analysis and reliable results suitable for further research on online collaboration in EFL.

Literature number	49	50	Literature number	10	22
Author	Marcel Pikhart	Yahya Hayati Nassar et al.	Author	GaLiP KartaL	Micòl Beseghi
Year	2020	2023	Year	2022	2021
Type of study	quantitative research	quantitative research	Type of study	qualitative research	qualitative research
S1: Are there clear research questions?	Yes	Yes	S1: Are there clear research questions?	Yes	Yes
S1 Comments	The study explored the impact of eLearning on Generation Z EFL students.	The study examines the effectiveness of blended learning in higher education in Saudi Arabia.	S1 Comments	The study examines the effectiveness of movie trailers in the language classroom with clear objectives.	The study explicitly explored the role of online reflective journals in the EFL classroom for student self-expression and self-directed learning.
S2: Do the collected data allow to address the research questions?	Yes	Yes	S2: Are the data sufficient to answer the research question?	Yes	Yes

S2 Comments	The data includes survey results and test scores that reveal changes in attitudes toward learning and comprehension.	The data contains surveys of student achievement, learning opportunities, and learning experiences that reveal the real impact of blended learning.	S2 Comments	Data were primarily derived from interviews and classroom observations that supported the research question responses.	The data consisted of students' online diaries and final questionnaires that were able to adequately support the answers to the research questions.
4.1: Is the sampling strategy relevant to address the research question?	No	No	3.1: Is the sampling strategy relevant to address the research question?	Yes	Yes
4.1 Comments	Mainly quantitative data analysis, not combined with qualitative data.	The study was based on quantitative data only and did not incorporate qualitative data.	3.1 Comments	The sampling strategy was appropriate, selecting students at different grade levels in order to observe changes in oral performance.	The sampling strategy is reasonable and covers the diversity in the EFL classroom of college and university students and is suitable for answering the research questions.
4.2: Is the sample representative of the target population?	No	No	3.2: Is the analysis method appropriate?	Yes	Yes

4.2 Comments	Lack of integration of quantitative and qualitative data and single data analysis.	Data are limited to quantitative analysis and lack quantitative and qualitative integration.	3.2 Comments	Data analysis methods were appropriate and thematic analysis was used to assess students' oral language improvement.	The method of analysis was appropriate, using a thematic analysis to summarize the content of the reflection.
4.3: Are the measurements appropriate?	No	No	3.3: Are data collection methods adequate to support findings?	Yes	Yes
4.3 Comments	The presentation of data results is simple and lacks in-depth interpretation.	Limited analysis of data results and lack of interpretation of multifaceted impacts.	3.3 Comments	Data collection was adequate and a combination of interviews and observations ensured the validity of the study.	The data collection methodology was adequate, using a variety of formats including online diaries and questionnaires.
4.4: Is the risk of nonresponse bias low?	No	No	3.4: Are findings substantiated by the data?	Yes	Yes

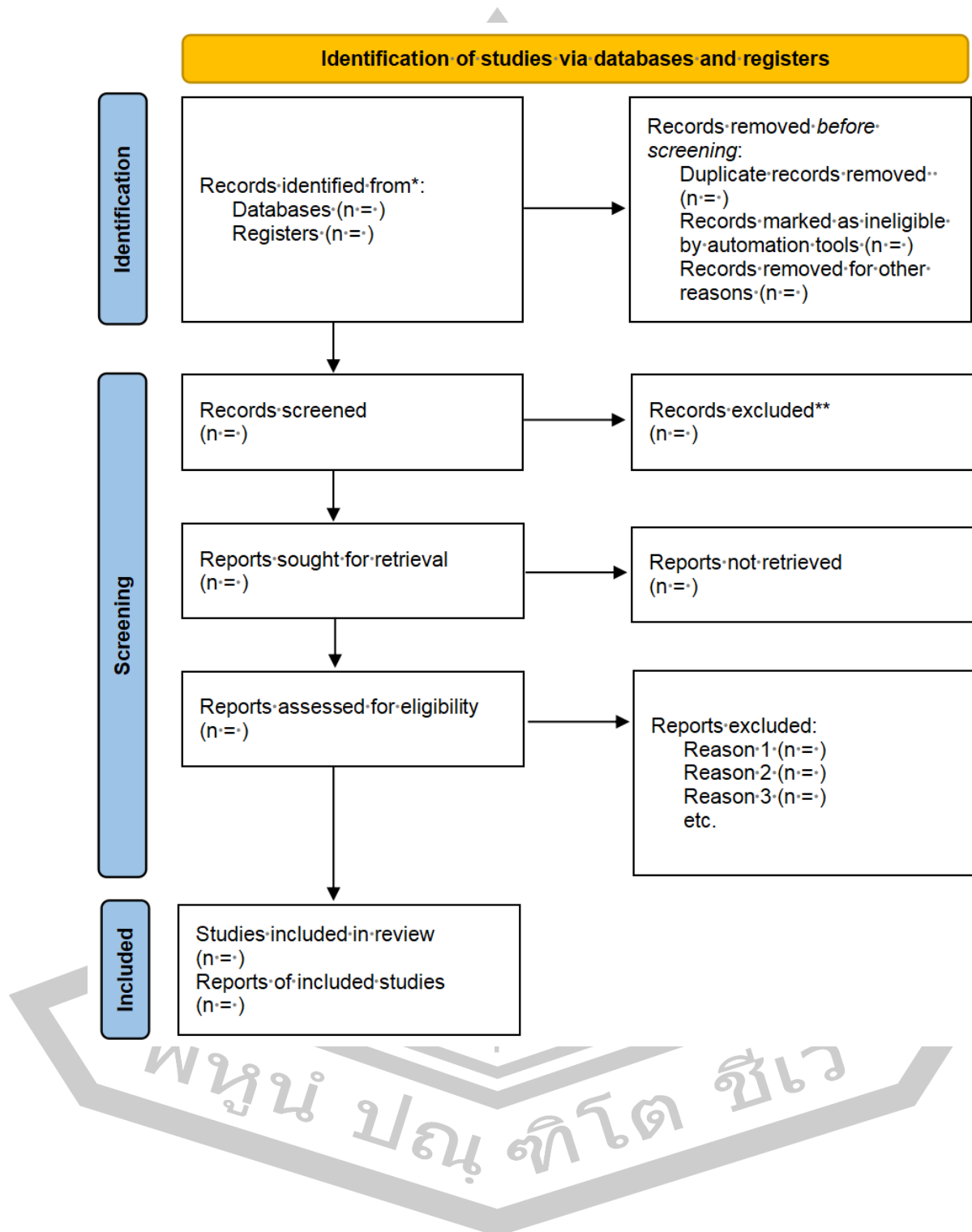
4.4 Comments	Only changes in learning comprehension were demonstrated, and multiple comparisons were not made.	The study design did not include a comprehensive comparison of quantitative and qualitative analyses.	3.4 Comments	The findings of the study are supported by sufficient evidence to demonstrate improvement in speaking proficiency.	The findings of the study are supported by ample evidence.
4.5: Is the statistical analysis appropriate to answer the research question?	Yes	Yes	3.5: Is there coherence between qualitative data sources, collection, analysis and interpretation?	Yes	Yes
4.5 Comments	The questionnaire and test design met quantitative research standards.	The research methodology is well designed and meets the criteria.	3.5 Comments	Students' oral performance and feedback were well presented in the study.	The sources, collection and analysis of qualitative data were consistent with each other, ensuring consistent results.
Concerning listening?	No	No	Concerning listening?	No	No

Listening Specific description	Listening proficiency were not addressed.	Listening proficiency were not addressed.	Listening Specific description	Listening proficiency were not addressed.	Hearing-related data were not addressed.
Concerning speaking?	No	No	Concerning speaking?	Yes	No
Speaking Specific description	No oral skills were addressed.	No oral skills were addressed.	Speaking Specific description	The data demonstrated improvement in students' speaking proficiency, particularly fluency and vocabulary richness.	No data related to spoken language were involved.
Concerning reading?	Yes	No	Concerning reading?	No	No
Reading Specific description	shows that eLearning has a positive effect on reading comprehension.	The study did not address specific data analysis of reading proficiency.	Reading Specific description	Reading proficiency were not addressed.	The data demonstrated student reflection on reading comprehension, but reading was not used as a primary skill goal.
Concerning writing?	No	Yes	Concerning writing?	No	Yes

Writing Specific description	Writing proficiency were not addressed.	Writing proficiency improved significantly.	Writing Specific description	Writing proficiency were not addressed.	Writing was assessed in detail as a key skill and self-expression was enhanced through reflective journaling.
Whether recommended for inclusion in the study	Yes	Yes	Whether recommended for inclusion in the study	Yes	Yes
synthesized assessment	Ideal for analyzing the use of eLearning in English language learning for Generation Z.	Suitable for analyzing the impact of blended learning on English language learning in higher education.	synthesized assessment	The study effectively demonstrated the role of movie trailers on speaking proficiency enhancement, which is of generalizable value.	This study systematically explored the role of reflective journals in supporting self-directed learning in EFL classrooms, with high value for educational applications.

พหุบัณฑิต ชีวะ

## Appendix D: PRISMA 2020 flow diagram



## BIOGRAPHY

**NAME** Liu Yang

**DATE OF BIRTH** 2nd February 1991

**PLACE OF BIRTH** Daqing City, Heilongjiang Province, China

**ADDRESS** Chengdu City, SiChuan Province, China

**POSITION** University administrator

**PLACE OF WORK** Sichuan Film and Television University

**EDUCATION** 2009-2013, Communications Engineering, Harbin  
University of Science and Technology, China  
2021-2025, Master of Education in Curriculum and  
Instruction, Mahasarakham University, Thailand

