DESIGNING BLENDED LEARNING TO ENHANCE CHINESE READING ABILITY FOR SEVENTH-GRADE STUDENTS

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Title	DESIGNING BLENDED LEARNING TO ENHANCE CHINESE READING ABILITY FOR SEVENTH-GRADE STUDENTS
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ABSTRACT

The objectives of this study were: (1) To develop blended learning activities to enhance the Chinese reading ability of seventh-grade students. (2) To determine the effectiveness of blended learning (BL) in enhancing the Chinese reading ability of seventh-grade students compared to those who received traditional learning methods (TLM). (3) To examine student satisfaction level toward blended learning. This study was conducted in a middle school in Yunnan Province, China, with 70 seventh-grade students selected by cluster random sampling and randomly assigned to a blended learning (BL) experimental group (35 students) or a traditional learning (TLM) control group (35 students). Over eight weeks, the BL group combined face-to-face teaching with an online platform (e.g., Ding Talk), while the TLM group continued with traditional methods. At the end of the intervention, the independent samples t-test showed that the difference between the two groups in reading ability scores was statistically significant, $t(68) = -3.216$, $p < 0.001$. The results of the study showed that blended learning was effective in enhancing students' Chinese reading ability; the experimental group was more satisfied with it as attractive and effective. This study provides useful empirical support for integrating technology and traditional methods in contemporary teaching and meeting students' learning needs.

Keywords: Blended learning; Chinese reading ability; Junior high school student; Face-to-Face Driver Model; Ding Talk Platform

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This is the end of the article. Two years of graduate school are coming to an end. Although there is a lot of reluctance, but still grateful.

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A deserted port is always full of flowers. Good luck to us, all.

YIRONG JIANG

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LIST OF ABBREVIATIONS

ADDIE	Analyze, Design, Develop, Implement, and Evaluate
BL	Blended Learning
BLC	Blended Learning Community
BOPPPS	Breaking the ice, Objectives, Pre-assessment, Participation, Plan, Summary
CRA	Chinese Reading Ability
EFL	English as a Foreign Language
ELL	English Language Learner
F2F	Face-to-Face
FAQ	Frequently Asked Questions
MA	Morphological Awareness
OER	Open Educational Resources
OS	Orthographical Skill
PA	Phonological Awareness
SES	Socioeconomic Status
TLM	Traditional Learning Methods

CHAPTER 1
INTRODUCTION

1.1 Research Background

Reading ability is fundamental to students' academic success and personal development. It is a crucial skill that enables pupils to acquire new knowledge, make sense of complex information, and engage in higher-order thinking processes. As students progress through their educational journey, the importance of reading becomes increasingly apparent. For students in Grade 7, in particular, the ability to read is critical because it marks the transition from learning to read to reading to learn (Snow, 2002). At this stage, students are expected to deal with more complex texts from various subjects and, therefore, need a solid foundation in reading. Reading ability is critical not only for academic achievement but also for personal growth. It enhances cognitive skills such as critical thinking, problem-solving, and analytical skills (Guthrie et al., 2004). As Snow (2002) argues that reading is essential for the language arts and critical for all disciplines.

Due to the deep-rooted traditional pedagogical thinking, the classroom still follows the same old teaching methods limited to books in the contemporary educational environment, resulting in ineffective teaching and learning. Traditional learning methodology is a teacher-driven style of teaching and learning that aims to make learners sit still and focus their attention (Tularam, 2018). Although conventional teaching is still the dominant method in many countries, it still has specific problems. Traditional learning is predominantly a one-way process that offers limited opportunities for discussion, inquiry, or hands-on experience, often resulting in a shallower depth of understanding compared to more interactive instructional methods. (Marmah, 2014).It also restricts the amount of information learners can access, as the teacher is the sole source of knowledge. Consequently, learners are often viewed as passive recipients of course content (Dewi & Primayana, 2019). This not only hinders learners from actively engaging in the teaching and learning process but also limits their development of essential skills for self-directed learning (Chikeme et al., 2024). Many studies have highlighted the limitations of traditional learning methods in sustaining

students' interest and promoting active learning. For example, Garrison and Kanuka (2004) argue that the conventional teacher-centered lecture format needs to provide the interactive and participatory learning experiences necessary to keep students engaged.

In recent years, the Chinese reading ability of secondary school students has become an important issue. Many studies have pointed out that traditional learning methods and outdated curricula have seriously hindered students' reading comprehension. For example, Gao et al. (2020) emphasized that traditional Chinese teaching methods are not effective in improving students' overall language proficiency, which directly affects their reading ability. Another challenge is the integration of traditional and modern Chinese teaching methods. Li (2021) argues that the use of ancient Chinese strategies when teaching reading in Classical Chinese can engage students more effectively, but these strategies are not widely used in modern classrooms. Similarly, innovative teaching methods, such as the use of concept maps and flipped learning, have been shown to improve students' summarization skills, although their impact on comprehension remains limited (Hwang et al., 2019).

According to Bataineh and Mayyas (2017), combining traditional classroom and online learning instruction is an effective method and approach. According to Dziuban, Hartman, and Moskal (2004), blended learning refers to the integration of face-to-face classroom instruction with online learning. The primary mode used during the study period is "online + offline," which can achieve an all-round and three-dimensional effect, and teachers can communicate with students at any time, master the learning method, clarify the learning vein, and clear up doubts through independent learning during the study. Blended learning, which integrates traditional face-to-face instruction with digital and online resources, has demonstrated significant potential in enhancing students' reading abilities. Blended learning offers various reading materials and interactive content catering to different learning styles and preferences. According to Graham (2006), integrating multimedia elements such as video, animation, and interactive exercises can make reading more engaging and accessible to students. This multimodal approach helps maintain students' interest and contributes to better comprehension and retention of the reading material. In conclusion, applying blended learning to teaching Chinese reading ability to Grade 7 students involves integrating

multimedia resources, facilitating online collaboration, providing personalized learning pathways, and utilizing continuous assessment tools. These strategies create a dynamic and supportive learning environment that can significantly improve students' reading abilities.

Blended learning has become an important pedagogical approach in higher education. Student satisfaction is a key indicator for assessing the effectiveness of blended learning environments, and many studies have investigated the factors that influence student satisfaction. According to Song (2021), students typically express high satisfaction with blended learning, particularly appreciating the flexibility and convenience it provides in managing their academic schedules. Similarly, Rahman et al. (2015) emphasize that both personal and contextual factors (e.g. personal adaptations and course structure) play a crucial role in shaping student satisfaction. The quality of interactions between students and instructors, as well as the technological tools used, are also critical. Kuo et al. (2014) found that learner-content interactions were the strongest predictor of satisfaction in courses with limited collaborative activities, emphasizing the importance of engaging instructional design.

Blended learning is essential in today's education because it combines the benefits of traditional learning methods with the advantages of digital learning. One of the significant advantages of blended learning is its ability to increase student engagement and motivation. According to a study by Alammary et al. (2014), blended learning environments can increase student motivation by providing interactive and varied learning activities appropriate for different learning styles. This is critical for seventh graders, who often have varying interest levels and engagement in reading activities. In addition, blended learning creates a more inclusive learning environment. It provides opportunities for students with diverse learning needs and abilities to engage with content in ways that best suit them. This adaptability is critical to ensuring that all students, regardless of their learning preferences or challenges, can succeed in reading ability (Smith & Basham, 2014). For using blended learning to teach 7th-grade students, blended learning promotes collaborative learning through online questioning, online Q&A, and group projects that allow students to interact meaningfully with their peers. When students discuss and analyze readings, this collaborative nature is essential for

developing critical thinking and comprehension skills (Means et al., 2013). Additionally, the flexibility of blended learning allows for differentiated instruction, where teachers can tailor their instructional strategies to meet the varying needs of their students, thereby improving overall reading ability. In conclusion, applying blended learning to Chinese reading ability for seventh graders provides a multifaceted approach that combines the advantages of both traditional and digital learning environments. Blended learning can significantly enhance students' reading ability and academic performance by utilizing multimedia resources, facilitating collaborative learning, and providing personalized instruction.

In summary, this study aims to investigate the impact of blended learning on enhancing the reading ability of 7th-grade students in Yunnan Province. The study will integrate digital tools and resources into the curriculum. Emphasizing the potential of blended learning in improving educational outcomes demonstrates the significant benefits of blended learning in modern education. This study will help students understand the curriculum and increase their motivation to learn, thus improving their performance. In the context of Chinese reading education, this increased motivation can improve reading ability and increase interest in the subject. Ultimately, this study hopes to advance the broader goal of optimizing the teaching and learning process through innovative approaches that will benefit students, educators, and the education system.

1.2 Research Question

Based on the above discussion, this study will explore the following questions:

1. How can blended learning activities be developed to enhance the Chinese reading ability of seventh-grade students?

2. Does blended learning in a 7th-grade Chinese subject enhance students' Chinese reading ability compared to traditional learning methods?

3. What is the level of satisfaction of students who receive blended learning?

1.3 Research Objective

1. To develop blended learning activities to enhance the Chinese reading ability of seventh-grade students.

2. To determine the effectiveness of blended learning in enhancing the Chinese reading ability of seventh-grade students compared to those who received traditional learning methods.

3. To examine student satisfaction level toward blended learning.

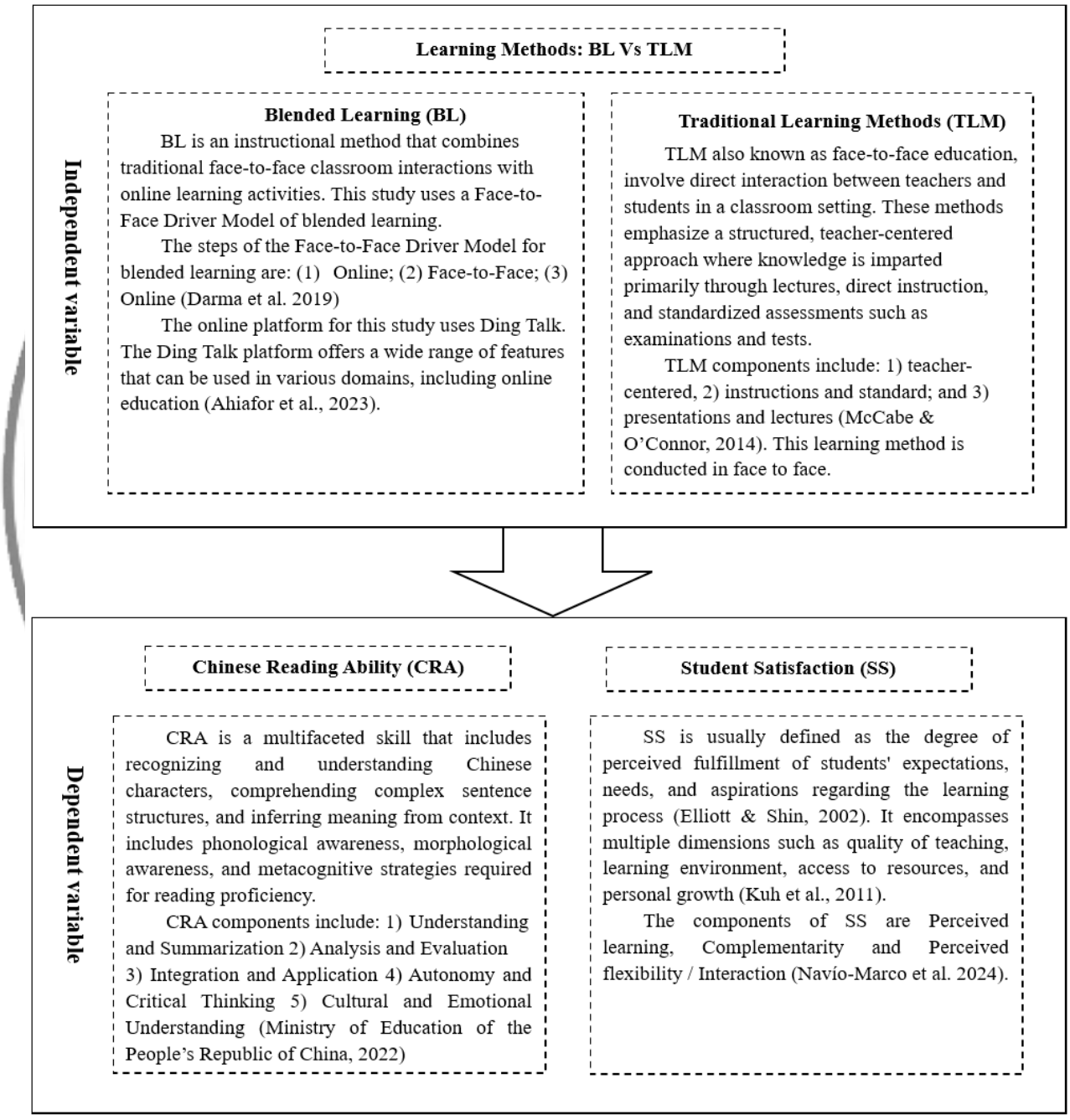
1.4 Research Hypothesis

Based on the objectives and questions of this study, the hypotheses of this study are as follows: By designing blended learning activities for Grade 7 students, students' Chinese reading ability will be enhanced. Compared with traditional learning methods, students who received blended learning improved their Chinese reading ability.

1.5 Conceptual Framework

Figure 1.1

Conceptual Framework



1.6 Scope of the Study

With the development of education technology, blended learning occupies an increasingly important position in today's education field and has become a mainstream teaching method. It gives students a more adaptable, individualized, and useful learning experience by fusing the benefits of online and offline learning environments. In recent years, blended learning has been widely used worldwide and is essential in several ways. Therefore, this study examined the seventh-grade Chinese curriculum in Chinese junior high schools. Guan Shang Experimental School in Guandu District, Kunming City, Yunnan Province, was chosen as the site of this study.

Stage 1: Development of blended learning activities.

Variable: Quality of blended learning activities

Step 1: Integration of blended learning with the ADDIE model for course instructional design

Step 2: Evaluation of blended learning in the course instructional design by experts

Step 3: Modify the model according to the experts' opinions

Step 4: Identify blended learning in the course

Source of data: 5 experts

Instructional content: traditional Chinese novel - Journey to the West. Use the 7th-grade textbook recommended by the Ministry of Education of China (ISBN: 9787107319532). The textbook has 100 chapters and three parts. Only two parts are selected for this study.

Part I: Chapters 1-7 (The birth of the stone monkey)

Part II: Chapters 8-22 (Reasons for fetching scriptures)

Stage 2: To study the effect of blended learning on the Chinese reading ability of 7th-grade students.

Variables:

IV: Learning methods

1. Blended learning

2. Traditional learning methods

DV:

Chinese reading ability

Population and Sample: There are five classes and 175 students in the seventh grade of Guan Shang Experimental School in Guandu District, Yunnan Province, with 35 students in each class. At the start of the experiment, cluster random sampling was employed to select from Classes 1 to 5, and two classes were randomly assigned to serve as the experimental and control groups.

Stage 3: Student satisfaction with blended learning

Variable: Student satisfaction

Population and Sample: The experimental group in this study was 35 students.

1.7 Definition of Terms

1.7.1 Blended Learning

Blended Learning (BL) integrates traditional face-to-face instruction with online learning, combining the strengths of both methods to create a more flexible, engaging, and personalized educational experience. A key model of BL is the face-to-face-driver model, where the majority of learning takes place in a physical classroom environment, supplemented by digital resources or activities to enhance student engagement. The model retains a teacher-led structure while integrating technology to support individual learning needs.

1.7.2 Face-to-Face Driver Model

The face-to-face driver model is a type of blended learning. Traditional learning methods are the main mode of instruction, with teachers interacting and instructing students face-to-face, supplemented by online learning resources and activities. This model emphasizes active teacher involvement and support for students both inside and outside the classroom and enhances learning through the integration of digital tools and resources. The face-to-face driver model is characterized by a primary reliance on face-to-face instruction, with 75% of the learning occurring in a traditional classroom setting. The remaining 25% integrates online learning activities that provide students with digital resources to complement their face-to-face experience. The model

ensures a balanced approach that combines direct instructor guidance with flexible online components.

1.7.3 Chinese Reading Ability

Chinese reading ability is a multifaceted skill that includes recognizing and understanding Chinese characters, comprehending complex sentence structures, and inferring meaning from context. Components of Chinese reading ability include: Understanding and Summarization, Analysis and Evaluation, Integration and Application, Autonomy and Critical Thinking, and Cultural and Emotional Understanding. For students in Grade 7, Chinese reading ability is critical.

1.7.4 Traditional Learning Methods

Traditional learning methods (TLM) emphasize teacher-centered, face-to-face instruction with structured teaching, lecture-based delivery, and reliance on textbooks. These methods focus on passive learning through repetition and memorization in formal, disciplined environments, guided by a predetermined curriculum to develop foundational skills. Components include teacher-centeredness, instruction and standards, and presentations and lectures.

1.7.5 Student Satisfaction

Student satisfaction refers to the perceived fulfillment of students' expectations and needs across various dimensions. Its components include perceptual learning, complementarity and perceptual flexibility/interactivity.

CHAPTER 2
LITERATURE REVIEW

The literature review for this study was conducted in two stages. First, the conceptual background of several key topics was emphasized, including:

2.1.1. Chinese Reading Ability;

2.1.2 Blended Learning;

2.1.3 ADDIE model;

2.1.4 Traditional Learning Methods;

2.1.5 Student Satisfaction.

Second, summarizes recent empirical research investigating the effect of BL on student Chinese reading ability and satisfaction, and or similar studies, including:

2.2 Related Works

2.1 Theoretical Framework

2.1.1 Chinese Reading Ability

2.1.1.1 Definition of Chinese Reading Ability

Chinese reading ability is a comprehensive and complex ability. It is a collection of multiple skills and abilities, in addition to comprehending the words and passages in a Chinese textbook. It is also necessary to explain the composition of their various linguistic components. Different scholars have different definitions of it. The core of Chinese reading ability includes recognizing and comprehending Chinese characters, essentially ideographs, meaning that each character represents a word or a meaningful part of a word (Shen, 2005). This recognition of Chinese characters is fundamental as it forms the basis for advanced reading processes such as vocabulary development and syntactic analysis (Li & Thompson, 1989). In addition, Chinese reading ability includes understanding complex sentence structures and inferring meaning from context, which is crucial given the homophonic and polysemantic nature of the language (Perfetti & Liu, 2005). Reading Chinese also requires a mastery of syntax and grammar, enabling readers to parse complex sentences and understand the relationships between characters and words. Semantic comprehension involves

grasping the meanings of characters and words in different contexts and is essential for accurately interpreting text and understanding nuanced meanings and idiomatic expressions (Packard, 2000). Thus, Chinese reading ability involves comprehending, interpreting, and engaging with written text, including making inferences, understanding themes, and critically analyzing content (Perfetti & Liu, 2005). The development of Chinese reading ability is influenced by various factors, including phonological awareness, morphological awareness, and metacognitive strategies (Tong et al., 2009).

Therefore, it is clear that Chinese reading ability is not a stand-alone but a multidimensional combination of abilities. Effective teaching of Chinese reading ability usually combines these elements, using methods such as Chinese character decomposition, contextual learning, and extensive reading practice. Chinese reading ability is a complex, dynamic structure integrating multiple linguistic and cognitive skills necessary for academic success and everyday communication.

2.1.1.2 Factors Affecting Reading Ability

Reading ability is affected by several factors that determine a learner's ability to read and comprehend Chinese texts. This also determines whether the learner's reading ability improves or declines. This section explores the key factors that significantly impact reading ability.

a) Phonological Awareness

Phonological awareness refers to the ability to recognize and manipulate the sound structures of language and is crucial for developing reading ability. It involves skills such as phoneme segmentation, blending, and rhyming, which are fundamental to decoding words. Research has shown that phonological solid awareness predicts successful reading development. For instance, Bradley and Bryant (1983) found that children's performance on a phonological awareness task predicted their reading ability several years later.

b) Vocabulary Knowledge

Vocabulary knowledge is another crucial factor that affects reading ability. A rich vocabulary enables readers to identify and understand words quickly, thus promoting fluent reading and comprehension. Research has consistently shown that the

size and depth of vocabulary are closely related to reading ability. Nagy and Scott (2000) emphasize that vocabulary knowledge contributes to reading comprehension because it allows readers to understand text and infer meaning. Snow (2010) further emphasizes the role of vocabulary in acquiring background knowledge and enhancing its importance in comprehension.

c) Cultural and Environmental Factors

Cultural and environmental factors significantly affect Chinese reading ability. The cultural context in which children grow up affects their exposure to and interest in reading. In addition, the home literacy environment, including parental involvement and availability of reading materials, profoundly affects reading development (Chen & Stevenson, 1995).

d) Teaching Methods

Reading teaching methods have a direct impact on reading ability. Effective teaching strategies must cater to the unique aspects of Chinese characters, such as their ideographic nature. Torgesen (2002) emphasizes the importance of explicit instruction in phonological awareness and character recognition. In addition, multimedia and technology-enhanced learning can support the development of reading ability by providing interactive and engaging ways of practicing reading (Leu et al., 2004).

e) Motivation and Participation

Motivation and engagement are critical to reading development. Students motivated to read and enjoy reading will likely develop strong reading abilities. Guthrie and Wigfield (2000) suggest that motivation affects the amount of reading practice and the development of reading ability. In addition, engaging in reading activities supported by a positive reading environment promotes better reading outcomes (Wigfield et al., 2004).

f) Metacognitive Strategies

Metacognitive strategies, such as self-monitoring and regulation during reading, significantly impact reading comprehension. These strategies enable readers to plan, monitor, and evaluate their text comprehension, improving reading efficiency. Pressley and Afflerbach (2012) emphasized that proficient readers use a

variety of metacognitive strategies to enhance comprehension and correct misunderstandings. Baker et al. (1996) stress metacognition's role in helping readers set goals, select appropriate strategies, and assess reading performance.

2.1.1.3 Components of Chinese Reading Ability

Chinese reading ability comprises several core components contributing to the learner's reading ability. These elements play specific roles in the Chinese context, characterized by unique textual and phonological features (National Reading Panel, 2000).

a) Fluency

Chinese reading fluency involves scanning texts accurately and with correct expression. Fluency is crucial because it promotes comprehension by freeing cognitive resources to interpret meanings rather than decode words.

b) Vocabulary

Vocabulary knowledge is an essential component of reading ability in any language, and it is essential in Chinese because of the high density of homophones and the ideographic nature of the writing system. A broad vocabulary helps readers to understand and interpret text because it provides immediate insight into the meaning of words and phrases.

c) Phonetics

The phonology of languages involves understanding the relationship between phonemes (the minor units of sound) and graphemes (written representations). Although languages are not alphabetic, the components of phonics revolve around an understanding of pinyin, a phonetic script used to transcribe the sounds of Chinese characters into the Roman alphabet.

d) Phonemic Awareness

Phonemic awareness in Chinese refers to the ability to manipulate phonemes in spoken language, which remains crucial despite Chinese not being an alphabetic language.

Yeung et al. (2016) identified the following components of Chinese reading ability:

a) Linguistic Comprehension

Linguistic comprehension refers to the ability to process and understand language, which includes oral vocabulary, syntactic skills, and listening comprehension. Research highlights that oral vocabulary plays a significant role in facilitating word recognition and overall reading comprehension in Chinese, particularly due to the absence of grapheme-to-phoneme rules in the language. Syntactic skills are especially critical as they allow readers to construct and interpret meaningful sentences, bridging the gap between isolated word meanings and overall textual understanding.

b) Decoding Skills

Decoding involves the accurate and fluent recognition of words. In Chinese, this encompasses word recognition accuracy and reading fluency. Word recognition serves as a foundational skill for sentence and passage comprehension, particularly for early learners. As students' progress, fluency becomes increasingly vital, enabling faster and more efficient text processing, which is necessary for understanding more complex and lengthier passages.

c) Syntactic Skills

Syntactic skills include knowledge of word order, sentence structure, and the use of connectives. These skills are essential for constructing coherent sentences and understanding relationships between ideas within a text. In Chinese, where syntax differs significantly from oral dialects like Cantonese, mastering syntactic rules in written language is pivotal for reading comprehension and academic success.

d) Oral Narrative Skills

Oral narrative skills involve the ability to construct and articulate coherent sentences and stories. This skill contributes to linguistic comprehension by improving the integration and interpretation of textual information. Strong oral narrative abilities have been shown to predict reading comprehension outcomes, particularly in narrative texts where understanding story elements is key.

e) Reading Fluency

Reading fluency, which involves reading text with speed and accuracy, is considered a higher-level skill within the decoding process. It supports comprehension by reducing cognitive load, allowing readers to focus on interpreting

meaning rather than decoding individual characters. As students advance, fluency plays a more prominent role in enabling the understanding of complex and lengthy texts.

f) Word Recognition Accuracy

This refers to the ability to correctly identify and pronounce written words. In Chinese, where character recognition is integral, achieving high accuracy in word recognition is a prerequisite for effective reading comprehension, especially in the early stages of literacy development.

Chen et al. (1993) divided the components of Chinese reading ability into:

a) Syntax Knowledge

Syntax knowledge refers to the understanding of grammatical structures and the ability to apply these rules when reading Chinese texts. This skill is a crucial predictor of reading performance across all grades, as it helps readers understand sentence construction and relationships between words. For younger readers, syntax knowledge provides a foundation for basic comprehension. As they advance, mastering more complex syntactic structures allows for deeper understanding of texts, demonstrating its consistent importance throughout the learning process.

b) Phonological Access

Phonological access involves the ability to decode sounds and link them to corresponding characters. This skill is particularly significant in early grades (e.g., grade two), where children are developing their basic reading abilities. As readers progress, the reliance on phonological decoding diminishes, with the skill becoming less predictive of reading proficiency in higher grades. Early mastery of phonological access supports the transition from character recognition to fluent reading.

c) Semantic Analysis

Semantic analysis entails understanding the meaning of words and sentences and using context to derive deeper comprehension. This skill becomes a strong predictor of reading proficiency from grade three onward. Advanced readers rely on semantic analysis to integrate information across sentences and passages, allowing them to construct meaningful interpretations of texts. Proficiency in this skill enables readers to focus on higher-order comprehension rather than basic decoding.

d) Visual Analysis

Visual analysis involves recognizing and interpreting the visual elements of Chinese characters, such as their strokes and structural configurations. This skill plays a key role in the early phases of reading development; however, its correlation with overall reading proficiency tends to decline as learners progress. The results indicate that visual analysis is vital for character identification in the initial stages but becomes less central as learners acquire more advanced skills like syntactic and semantic processing.

For the components of Chinese reading ability, Dong et al. (2020) argues:

a) Morphological Awareness (MA)

Morphological awareness refers to the capacity to understand and work with morphemes, the smallest meaningful components of language. In the context of Chinese, where characters often consist of multiple radicals with distinct semantic or phonetic contributions, morphological awareness is critical. For example, understanding the semantic radical can help students infer the meaning of unfamiliar characters. Research has shown that MA plays a stronger role in reading comprehension for Chinese students compared to phonological or orthographical skills. This is largely due to the logographic nature of Chinese script, where semantic information is embedded in the character structure.

b) Phonological Awareness (PA)

Phonological awareness is the capacity to recognize and manipulate the sound structures of spoken language, including syllables, rhymes, and phonemes. While PA is essential for reading alphabetical scripts, its role in Chinese reading comprehension is moderate. This is because Chinese characters do not have a direct grapheme-to-phoneme correspondence. However, PA still contributes to reading comprehension, particularly in tasks that involve recognizing homophones or understanding tone variations in spoken Mandarin.

c) Orthographical Skill (OS)

Orthographical skill pertains to the ability to understand and apply the rules governing the sound-symbol relationship in written language. For Chinese, this includes recognizing the spatial arrangement and structural organization of radicals within a character. OS is particularly important for young learners as they develop

fluency in identifying characters and understanding their meanings. Studies indicate that OS has a moderate correlation with reading comprehension, as it supports the visual processing required for efficient character recognition.

The Ministry of Education of the People's Republic of China (2022) summarizes the components of Chinese reading ability as the following:

a) Understanding and Summarization

Understanding and summarization form the foundation of reading skills, requiring students to accurately grasp the main content, key information, and author's viewpoints. By identifying language expressions and text structures, students can clearly summarize the text's main idea, laying the groundwork for deeper analysis.

b) Analysis and Evaluation

Analytical and evaluative skills require students to delve into the deeper meanings of texts, examining their logic, structure, and linguistic effectiveness. Additionally, students should critically assess texts based on personal experiences and prior knowledge, fostering critical thinking.

c) Integration and Application

Integration and application emphasize the ability to synthesize information from various sources and apply the knowledge and skills gained through reading to practical problems. For instance, students can adopt diverse writing styles or expressions learned through reading to enhance their own language use.

d) Autonomy and Critical Thinking

Autonomy and critical thinking aim to broaden and deepen students' reading experiences. Students should actively explore diverse text types, independently build reading comprehension frameworks, and maintain critical perspectives to avoid passively accepting information.

e) Cultural and Emotional Understanding

Cultural and emotional understanding seeks to enhance students' cultural sensitivity and humanistic care through reading. Students are encouraged to perceive the cultural context, values, and emotional expressions embedded in texts, fostering a global perspective and aesthetic literacy.

In this study, the components of the Ministry of Education of the

People's Republic of China (2022) were selected as the basis. The main reason for this is that the standard is authoritative, comprehensive, and highly relevant to the subject of the study. As the official standard for Chinese education at the compulsory education level, these guidelines clearly define the core competencies and key components required to develop Chinese reading ability. The design of blended learning activities aligns with the national curriculum objectives and reflects the educational priorities established by the Ministry of Education. This alignment not only ensures the relevance and applicability of the research activities but also provides a standardized benchmark for evaluating the effectiveness of blended learning in enhancing students' Chinese reading ability. Moreover, the 2022 curriculum standards explicitly detail specific teaching objectives and skill requirements for grades 7-9, which directly correspond to the characteristics of the seventh-grade students participating in this study. This ensures that the experimental test design is well-suited to the students' educational level and developmental needs.

Below is a summary of the components of Chinese reading ability. See table 2.1.

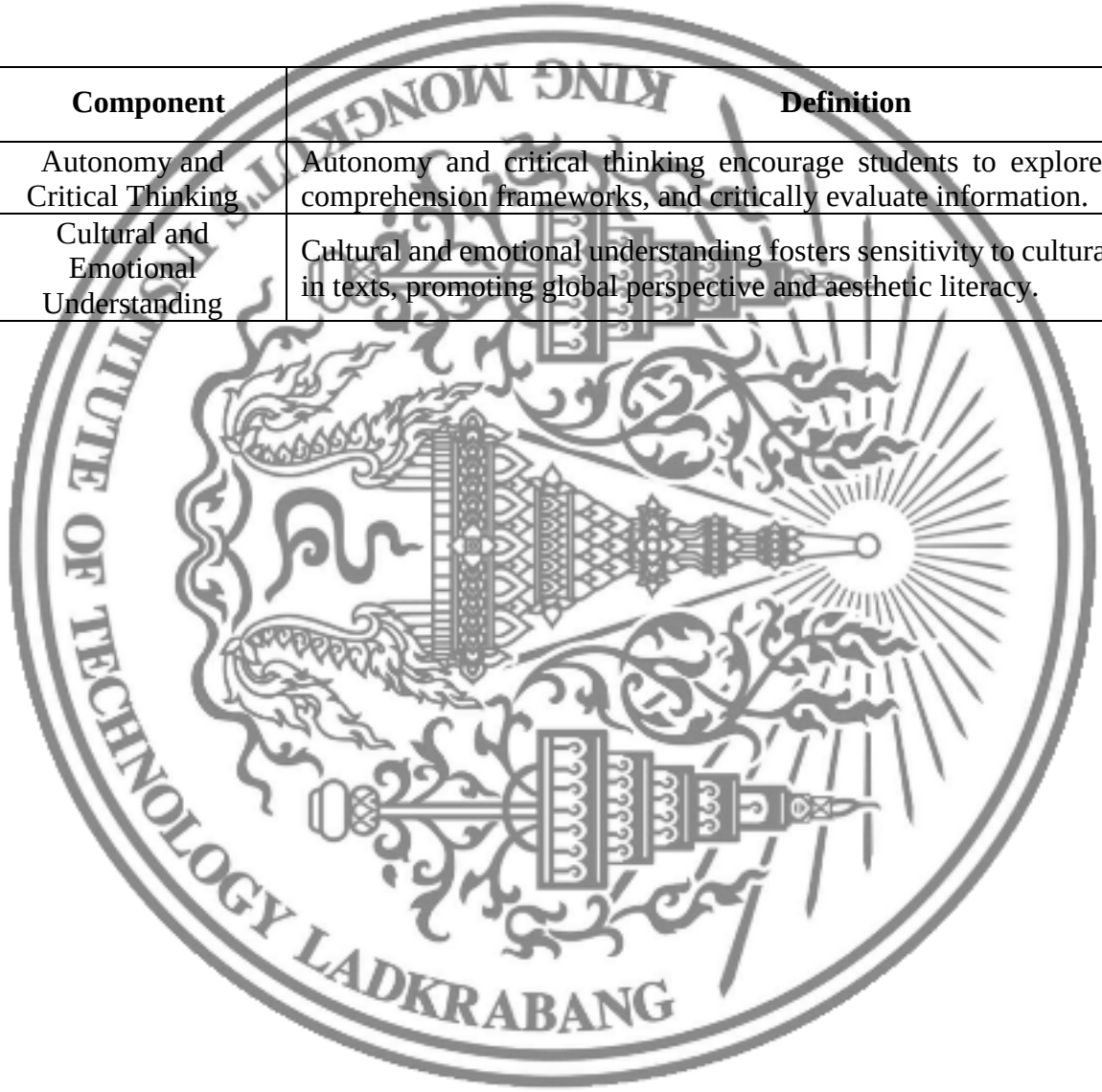
Table 2.1

Summary of Components of Chinese Reading Ability

Author	Component	Definition
National Reading Panel (2000)	Fluency	Chinese reading fluency involves scanning texts accurately and with correct expression.
	Vocabulary	Vocabulary knowledge is crucial in Chinese reading due to homophones and the ideographic script, providing key insights into word and phrase meanings.
	Phonetics	The phonology of languages involves understanding the relationship between phonemes (the minor units of sound) and graphemes (written representations).
	Phonemic Awareness	Phonemic awareness in Chinese refers to the ability to manipulate phonemes in spoken language
Yeung et al. (2016)	Linguistic Comprehension	Linguistic comprehension refers to the ability to process and understand language, which includes oral vocabulary, syntactic skills, and listening comprehension.
	Decoding Skills	Decoding involves the accurate and fluent recognition of words.
	Syntactic Skills	Syntactic skills include knowledge of word order, sentence structure, and the use of connectives.
	Oral Narrative Skills	Oral narrative skills involve the ability to construct and articulate coherent sentences and stories.
	Reading Fluency	Reading fluency, which involves reading text with speed and accuracy, is considered a higher-level skill within the decoding process.

Author	Component	Definition
	Word Recognition Accuracy	This refers to the ability to correctly identify and pronounce written words.
Chen et al. (1993)	Syntax Knowledge	Syntax knowledge refers to the understanding of grammatical structures and the ability to apply these rules when reading Chinese texts.
	Phonological Access	Phonological access involves the ability to decode sounds and link them to corresponding characters.
	Semantic Analysis	Semantic analysis entails understanding the meaning of words and sentences and using context to derive deeper comprehension.
	Visual Analysis	Visual analysis refers to the ability to recognize and process the visual features of Chinese characters, including their strokes and configurations.
Dong et al. (2020)	Morphological Awareness	Morphological awareness refers to the capacity to understand and work with morphemes, the smallest meaningful components of language.
	Phonological Awareness	Phonological awareness is the capacity to recognize and manipulate the sound structures of spoken language, including syllables, rhymes, and phonemes.
	Orthographical Skill	Orthographical skill pertains to the ability to understand and apply the rules governing the sound-symbol relationship in written language.
Ministry of Education of the People's Republic of China (2022)	Understanding and Summarization	Understanding and summarization are foundational reading skills, enabling students to grasp key content and structure for deeper analysis.
	Analysis and Evaluation	Analytical and evaluative skills involve examining text depth, logic, and effectiveness while fostering critical thinking through personal and prior knowledge.
	Integration and Application	Integration and application involve synthesizing information and using reading-derived knowledge to solve practical problems and enhance language skills.

Author	Component	Definition
	Autonomy and Critical Thinking	Autonomy and critical thinking encourage students to explore diverse texts, build comprehension frameworks, and critically evaluate information.
	Cultural and Emotional Understanding	Cultural and emotional understanding fosters sensitivity to cultural contexts and values in texts, promoting global perspective and aesthetic literacy.



2.1.1.4 Benefits of Chinese Reading Ability

The benefits of Chinese reading ability go beyond literacy. These benefits encompass cognitive, academic, cultural, and social dimensions that enhance educational outcomes and personal development.

a) Cognitive Development

Chinese reading promotes cognitive development, especially in visuospatial skills and memory. The ideographic nature of Chinese characters requires learners to perform complex visual processing and pattern recognition, which can enhance cognitive functioning. Tan et al. (2005) found that learning Chinese characters activates the left and right hemispheres of the brain and promotes bilateral cognitive development. In addition, McBride–Chang and Kail (2002) showed that practice in memorizing and recalling Chinese characters improved working memory and attention.

b) Academic Achievement

Chinese reading ability makes a significant contribution to overall academic achievement. Strong reading ability contributes to better comprehension of academic texts, improving discipline performance. Chung et al. (2013) showed that students with solid Chinese reading ability tended to achieve higher scores in other academic areas.

c) Cultural Awareness and Identity

Chinese reading ability enhances cultural awareness and deepens understanding of Chinese history, literature, and philosophy. Through exposure to classical and contemporary texts, learners can gain insights into cultural values and social norms, Wang and Koda (2007) study shows that reading Chinese literature promotes cultural identity and appreciation. In addition, Lam (2009) highlights how Chinese reading can contribute to the preservation of the cultural heritage of diaspora communities and strengthen ties with cultural roots.

d) Language Skills and Multilingualism

Developing Chinese reading ability improves overall language proficiency and supports multilingualism. Learning to read in a language helps to increase meta-linguistic awareness and cognitive flexibility, facilitating the acquisition of other languages. Bialystok and Feng (2009) study showed that bilinguals who could

read Chinese showed better executive control and language-switching abilities. Bialystok and Feng (2009) study showed that Chinese reading ability was a critical factor in the acquisition of other languages, as well as in the acquisition of other languages. Similarly, Koda (2005) argues that the complex structure of Chinese characters helps learners to develop transferable strategies to other languages.

e) Lifelong Learning and Personal Development

Reading Chinese promotes lifelong learning and personal development. Extensive reading fosters a love of learning and intellectual curiosity, essential for personal growth (Cao et al., 2006). Chinese literature often contains philosophical and moral lessons that can guide personal development and ethical decision-making. Exposure to different genres and authors of Chinese works can broaden students' perspectives and encourage them to maintain an open mind and critical thinking (Chung et al., 2011).

2.1.1.5 Challenges of Chinese Reading Ability

The acquisition of Chinese reading ability presents a unique set of challenges different from learning to read an alphabetic language. These challenges stem from the linguistic complexity of Chinese characters, the cognitive demands of learning to read, and various sociocultural factors.

a) Complexity of Chinese Characters

One of the main challenges in developing Chinese reading ability is the complexity of Chinese characters. Unlike alphabetic languages, where letters represent sounds, Chinese characters are ideographs, meaning each character represents a grapheme or a meaningful unit. This complexity requires learners to memorize thousands of unique characters, which can be daunting. Shu et al. (1995) emphasize that this ideographic nature makes it difficult for learners to apply phonological strategies commonly used in alphabetic languages. Furthermore, as Hanley et al. (1999) point out, the lack of direct phoneme-grapheme correspondences complicates the decoding process.

b) Homophones and Homonyms

Chinese is full of homophones (words that sound the same but have different meanings) and homonyms (characters that look the same but have different

pronunciations and meanings). For example, the word “行” can be pronounced as “xíng” (walk) or “hang” (line), depending on the context. This abundance of word combinations can confuse learners, making it difficult to determine the correct meaning and pronunciation based on context. Wang et al. (2005) point out that the prevalence of homophones requires learners to rely heavily on contextual cues and morphological knowledge, which adds another layer of complexity to the reading process.

c) Phonological Awareness and Intonation

Phonological awareness, which involves recognizing and manipulating the sound patterns in spoken language, plays a vital role in the development of reading ability. However, Chinese phonology includes intonation and pitch variation that distinguish word meaning. For example, the syllable "ma" can mean "mother," "hemp," "horse," or "swear," depending on its tone. As McBride-Chang and Suk-Han Ho (2005) point out, this tonal aspect adds another layer of complexity for learners. In addition, children must develop sensitivity to phonemes and intonation, which is particularly challenging for speakers of non-tonal languages (Gottardo et al., 2001).

d) Vocabulary Acquisition

Acquiring sufficient vocabulary to achieve Chinese reading fluency is long and arduous. The high frequency of unique characters in written Chinese means that learners must continually expand their character recognition skills. Li and McBride-Chang (2014) showed that vocabulary growth in Chinese requires much more exposure and practice than in alphabetic languages.

In summary, the challenges of developing Chinese reading ability are manifold, involving the complexity of Chinese characters, homophones, phonetics, intonation, and other limitations. Addressing these challenges requires innovative teaching strategies and a thorough understanding of the linguistic features of the language.

2.1.2 Blended Learning

2.1.2.1 Definition of Blended Learning

The definition of blended learning is a complex matter, which is far more complicated than people think. Scholars and educationalists have defined it differently

and given different views on blended learning. Bersin (2004) defines blended learning as the integration of various training media, including technologies, activities, and types of instructional events to design an optimal training program tailored to a specific audience. Dziuban et al. (2004) define blended learning as a combination of face-to-face interaction in the classroom and online learning, with the latter often taking place outside regular class hours. Thorne (2003) defines blended learning as the integration of the innovative and technological advancements of online learning with the engagement and interaction characteristic of the best aspects of traditional learning. Akkoyunlu and Yilmaz Soylu (2006) define blended learning as a learning environment combining technology with face-to-face learning. BL components include 1) Face-to-face, 2) Blended learning, and 3) Virtual (Moica et al., 2019).

In short, it combines the best online and offline teaching, which optimizes the use of various resources and caters to different learning styles. Blended learning combines the strengths of traditional instruction and online learning while integrating a variety of teaching resources.

2.1.2.2 Benefits of Blended Learning

The blended learning approach to teaching and learning is becoming increasingly recognized for its many and is becoming progressively more popular.

a) Enhanced Flexibility and Accessibility

Blended learning offers increased flexibility and accessibility, allowing students to conveniently access course materials and engage in learning activities. This flexibility is beneficial for accommodating different study schedules and paces (Graham, 2006). It enables students to balance their academic responsibilities with other commitments, such as part-time jobs or extracurricular activities (Garrison & Kanuka, 2004). In addition, blended learning can benefit students in remote areas, providing educational opportunities that would otherwise be inaccessible (Means et al., 2013).

b) Increased Student Engagement

Blended learning has increased student engagement by combining traditional classroom interactions with interactive online content. Incorporating multimedia tools like videos, quizzes, and discussion forums helps create a more

dynamic and interactive learning experience (Bonk & Graham, 2012). This approach suits different learning styles and motivates students (Dziuban et al., 2004). In addition, using online platforms allows for real-time feedback and a personalized learning experience (Alonso et al., 2005).

c) Improved Learning Outcomes

Research has shown that blended learning improves learning outcomes compared to traditional classroom-only instruction. The combination of face-to-face and online learning provides multiple ways for students to master complex concepts (Means et al., 2010). This multi-modal approach facilitates a more profound understanding and retention of knowledge (Vaughan, 2007). For example, Means et al. (2010) conducted a meta-analysis showing that students engaged in blended learning achieved higher performance outcomes compared to those in purely face-to-face or fully online environments.

d) Enhanced Collaboration and Communication

Blended learning environments help improve collaboration and communication among students and between students and teachers. Online discussion boards, group projects, and collaboration tools enable students to collaborate and share ideas more effectively (Garrison & Vaughan, 2007). This fosters a sense of community and enhances the development of communication skills (So & Brush, 2008). In addition, teachers can provide timely feedback and support through various online channels (Picciano, 2009).

e) Cost-Effectiveness

Compared to traditional learning methods, blended learning offers greater cost efficiency by minimizing the reliance on physical classroom space and reducing associated costs like utilities and facility maintenance (Twigg, 2003). In addition, online resources can be easily reused and updated, thus reducing the need to print and distribute physical materials (Bonk & Graham, 2012). The cost-effectiveness of blended learning makes it an appealing solution for educational institutions seeking to manage resources more efficiently.

f) Personalized Learning

Blended learning supports personalized learning by allowing

students to progress at their own pace and with their individual learning needs. Adaptive learning techniques allow content and activities to be tailored to each student's strengths and weaknesses (Moskal et al., 2013). By catering to individual needs, this personalized approach enables students at all proficiency levels to successfully achieve their learning objectives (Horn & Staker, 2011). In addition, blended learning environments provide opportunities to differentiate instruction to meet the diverse needs of learners (Horn & Staker, 2017).

2.1.2.3 Challenges of Blended Learning

However, to a certain extent, blended learning has many limitations and faces some challenges in addition to its many advantages. Moreover, educational scholars, educators, institutions, and schools must address these challenges to ensure successful implementation.

a) Technological Issues

Technical challenges are one of the most significant obstacles in blended learning environments. These include issues with internet connectivity, access to appropriate devices, and reliability of the learning platform. According to Graham (2013), inadequate technological infrastructure can seriously hinder the effectiveness of blended learning. Furthermore, Hrastinski (2019) emphasizes that students and teachers must be proficient in using technology, which requires additional training and support.

b) Resistance to Change

Resistance to change is another challenge that organizations and educators face when implementing blended learning. Traditional educational practices are deeply entrenched, and teachers and students may be reluctant to adopt new methods. Bonk and Graham (2012) state that institutional culture and educators' willingness to adapt to new teaching models play a crucial role in successfully implementing blended learning. Vaughan (2007) also emphasizes that changing teaching methods requires significant effort and can be met with excellent resistance.

c) Quality of Online Content

The quality of online content is critical to the success of blended learning. Poorly designed online materials can lead to reduced interest and ineffective

learning. Poon (2013) argues that ensuring high-quality, interactive, and engaging online content is essential to keep students interested and motivated. Garrison and Vaughan (2008) further emphasize the need to complement and augment traditional classroom instruction rather than replicate it.

d) Assessment and Evaluation

Assessing student performance in blended learning environments can be challenging due to integrating various learning activities and platforms. Anderson (2008) noted that traditional assessment methods may not be sufficient to assess the variety of skills and competencies developed in blended learning. Singh (2003) added that developing appropriate assessment tools to measure learning outcomes in both online and offline components accurately is a complex task.

e) Pedagogical Challenges

Blended learning requires rethinking traditional learning methods to accommodate the integration of online and face-to-face instruction. Graham (2006) noted that educators must develop new skills and strategies to design and deliver blended learning courses effectively. Hrastinski (2019) also stated that creating a coherent learning experience that capitalizes on the strengths of both online and offline approaches is a significant challenge for educators.

2.1.2.4 Types of Blended Learning

Blended learning has evolved into several types, each offering unique advantages and meeting different educational needs.

Humaira, Asbah, and Adyati (2019) state several types of blended learning in teaching reading. Those types are as follows:

a) Face-to-Face Driver Model

In a traditional classroom teaching environment, the learning experience relies on live instruction as the core. Teachers use online learning for remedial or supplementary teaching, supplemented by online components.

b) Rotation Model

This form of blended learning allows students to alternate between face-to-face and online instruction according to a predetermined schedule. It is primarily implemented in California, particularly at the elementary school level.

c) Flex Model

This type of blended learning combines face-to-face and online education simultaneously. In this model, the teacher and students are physically present in the classroom, while instructional materials are delivered through an online platform. The teacher's presence provides support and guidance as needed, while students engage in self-directed learning using classroom technology. In other words, students learn independently but under the supervision of the teacher.

d) Online Lab Model

This type of blended learning takes place in the school's computer lab during class activities, allowing students to work at their own pace without disrupting the progress of their peers.

e) Self-Blend Model

This type of blended learning enables students to enroll in courses beyond their regular school curriculum, allowing them to participate in both traditional classroom instruction and individual online courses.

f) Online Driver Model

In this type of blended learning, instructional materials are delivered primarily through an online platform. Students can engage in online discussions with the teacher whenever they have questions about the content. Traditional classroom attendance is optional, offering students greater flexibility to manage their learning according to their daily schedules.

Alammary (2019) divides the types of blended learning into:

a) Flipped Model

In this model, course content and concepts are introduced outside the classroom through online resources, while classroom time is dedicated to active learning with an emphasis on problem-solving. There are two variations of this approach: one where online components are added to the traditional course without reducing in-class time, and another where face-to-face time is reduced to maintain a balanced student workload.

b) Mixed Model

In this model, both content delivery and hands-on activities occur

through a combination of face-to-face and online formats. It offers flexibility, allowing teachers to select the most suitable delivery method based on the nature of the content and the needs of the students. Research indicates that this approach may have a more substantial impact on student performance.

c) Flex Model

Content delivery and hands-on activities are primarily online, but students must attend regular face-to-face meetings to check progress or receive feedback. This model enables students to progress at their own pace while benefiting from guidance and feedback provided during face-to-face sessions.

d) Supplemental Model

In this model, content delivery and hands-on activities take place primarily in the face-to-face classroom, while online supplementary tasks are incorporated to enhance student engagement with the course material. A key challenge of this approach is ensuring that the online components are meaningfully integrated with in-class activities to prevent cognitive overload.

e) Online-Practicing Model

This model is centered on an online learning platform that provides an interactive learning environment for students to engage in learning and problem-solving activities across various disciplines. Students can receive timely feedback on their assignments and performance in this environment. The delivery of content can take place through face-to-face lectures and online resources that support students' self-directed learning and encourage them to explore and practice at their own pace and style of learning.

Blended learning has evolved into several types, each tailored to different educational needs and offering unique advantages. In this study, we chose the Face-to-face driver model. This model maximizes teachers' professional knowledge and experience and ensures the quality of teaching by correcting students' mistakes and answering their doubts promptly through face-to-face interactions. Secondly, face-to-face teaching can better cultivate students' sense of classroom participation and responsibility, which helps to enhance students' motivation and enthusiasm. In addition, the face-to-face driver mode allows teachers to use various teaching resources flexibly.

It means enhancing learning by combining the advantages of online resources, such as digital courseware and interactive exercises. In conclusion, the face-to-face driver mode can not only maintain the benefits of traditional teaching but also give full play to the supplementary role of digital resources, thus effectively enhancing the Chinese reading ability of Grade 7 students. Summary of blended learning types See Table 2.2.

Table 2.2

Types of Blended Learning

Author	Types	Definition
Humaira, Asbah, and Adyati (2019)	Face-to-Face Driver Model	In a traditional classroom teaching environment, the learning experience relies on live instruction as the core. Teachers use online learning for remedial or supplementary teaching, supplemented by online components.
	Rotation Model	This form of blended learning allows students to alternate between face-to-face and online instruction according to a predetermined schedule.
	Flex Model	This type of blended learning combines face-to-face and online education simultaneously. In this model, the teacher and students are physically present in the classroom, while instructional materials are delivered through an online platform.
	Online Lab Model	This type of blended learning takes place in the school's computer lab during class activities, allowing students to work at their own pace without disrupting the progress of their peers.
	Self-Blend Model	Enables students to take additional online classes individually alongside traditional classes.
	Online Driver Model	Provides materials online and allows online discussions with the teacher, with traditional classroom attendance being optional, offering flexibility based on schedules.
Alammary (2019)	Flipped Model	Course content is explained online outside the classroom, followed by active learning and problem-solving in the classroom. Variants include maintaining or reducing class time.
	Mixed Model	In this model, both content delivery and hands-on activities occur through a combination of face-to-face and online formats.

Author	Types	Definition
	Flex Model	Content delivery and hands-on activities are primarily online, but students must attend regular face-to-face meetings to check progress or receive feedback.
	Supplemental Model	Content and activities are primarily face-to-face, with additional online supplementary activities to enhance interaction with the course content.
	Online-Practicing Model	Online centers provide an interactive learning and problem-solving environment, with timely feedback and support for self-directed learning.

2.1.2.5 Face-to-Face Driver Model

This study adopted the Face-to-Face driver model because This approach fosters learner-to-learner interactions and provides a dynamic learning environment that positively impacts vocabulary acquisition and reading ability (Albatti, 2023). Additionally, the effectiveness of blended learning in teaching reading comprehension has been highlighted in tertiary education settings, emphasizing the importance of combining virtual resources with traditional learning methods to enhance students' reading ability.

a). Definition

The Face-to-face driver model primarily involves a traditional face-to-face classroom environment with instructor-led instruction supplemented by online activities to support and extend classroom learning. The model emphasizes the primary role of face-to-face interactions while using technology as an adjunct to enhance the learning experience (Staker & Horn, 2012). In this model, online components are typically designed to reinforce classroom lessons, provide additional practice, or extend discussion beyond the classroom (Tucker, 2012).

b). Benefits

Face-to-face-driver models offer a variety of benefits, particularly in personalizing the learning experience and enhancing student engagement. By integrating technology, teachers can provide more differentiated and adaptive resources that allow students to progress at their own pace. This approach has increased student engagement by providing diverse educational materials and interactive learning environments (Horn & Staker, 2017). In addition, it allows for immediate feedback and deeper interaction with the content, which enhances understanding and retention of the material (Bergmann & Sams, 2012).

c). Challenges

Despite the many advantages of the face-to-face drive model, it also faces many challenges. One of the main challenges is the potential for technology integration issues, where inadequate training or resources may hinder effective implementation (Graham, 2013). In addition, maintaining student motivation for online programs can be difficult, especially when online activities are seen as a complementary

rather than essential part of the learning process (Vaughan, 2014). The model must be carefully planned to ensure that online and face-to-face courses are seamlessly integrated and equally valued by students and instructors (Hew & Brush, 2007).

d). Percentage

In blended learning, choosing the right ratio of face-to-face and online instruction is critical to achieving students' educational goals.

In blended learning, the proportion of online and face-to-face learning activities varies. Masyitah et al. (2014) showed in their study that the combination of 75% face-to-face and 25% online learning effectively enhanced students' learning outcomes, especially in terms of their speaking and listening skills. This ratio helps to reinforce face-to-face interactions while utilizing online learning as a complement to consolidate and deepen learning content. Research in technology education similarly points to a 75% face-to-face and 25% online ratio for engineering teacher candidates to significantly improve their professional competency output. This suggests that such ratios are highly effective in disciplines that emphasize skill development and practice (Tambunan et al., 2021). A study in English language teaching explored the effects of different blended learning ratios on students and found that students were more engaged and learned better when 75% face-to-face and 25% online were used (Ibrahim & Rinantanti, 2023).

In addition to the 75% face-to-face and 25% online learning combination, there are also common combinations of 50% face-to-face and 50% online learning and 60% face-to-face and 40% online learning. However, for the 50% 50% ratio: while a balanced combination of online and face-to-face can enhance student autonomy, too high a proportion of online learning for secondary school students may lead to a lack of self-discipline, which ultimately undermines learning outcomes (Hikmah & Chudzaifah, 2020). The ratio of 40% online to 60% face-to-face, while slightly more favorable than 50% / 50% for face-to-face learning, still reduces the role of face-to-face interaction and immediate feedback, especially in language learning scenarios. Dewi (2021) study showed that 75% of face-to-face ensures that students have more time for interaction and discussion in the classroom, which is essential for improving reading comprehension and language expression (Dewi, 2021).

In summary, the ratio of 75% face-to-face to 25% online learning can provide sufficient classroom interaction while using online learning to enhance student autonomy and learning outcomes, making it the best-blended learning model for targeting the development of reading ability in seventh graders.

2.1.1.6 Blended Learning Stages

For the Stage of blended learning, Darma et al. (2019) summarize it as follows: (1) Online; (2) Face-to-Face; (3) Online (See Figure 2.1). The first online stage involves delivering content and preparing students for learning through digital platforms. The second stage face-to-face stage focuses on interactive engagement and in-depth instruction facilitated by the teacher. The third stage online emphasizes reflection, consolidation of knowledge, and assessment to evaluate learning outcomes.

Figure 2.1

Blended Learning Stage

Note: From Darma et al. (2019). The Development of Blended Learning Model in Applied Mathematics by Using LMS Schoology: Requirement Analysis Stage. *International Research Journal of Engineering, IT and Scientific Research, 5(6), 33-45.*

Anthony et al. (2022) have this to say about the blended learning stage:

1) Conduct a Needs Analysis: Assess institutional goals, resources, and stakeholder readiness to determine the necessity and scope of blended learning.

2) Select an Appropriate Blended Learning Model: Choose a model that aligns with institutional objectives and learner needs.

3) Develop Infrastructure and Support Systems: Establish the necessary technological infrastructure and provide training for faculty and students.

4) Design the Blended Curriculum: Integrate online and face-to-face components cohesively, ensuring alignment with learning outcomes.

5) Implement and Monitor: Launch the blended courses and continuously monitor their effectiveness, making adjustments as needed.

6) Evaluate and Revise: Assess the overall impact on learning outcomes and refine the approach based on feedback and data.

For the blended learning stage Dziuban et al. (2018) summarize it like this:

1) Define Blended Learning Objectives: Clearly articulate the goals and expected outcomes of implementing blended learning.

2) Assess Technological Infrastructure: Ensure the availability of necessary technology and resources to support blended learning.

3) Develop Instructional Design: Create a curriculum that effectively combines online and face-to-face instructional methods.

4) Train Educators and Learners: Provide training to both instructors and students on how to navigate and utilize blended learning environments.

5) Implement the Blended Learning Program: Roll out the program, ensuring all components are operational and accessible.

6) Monitor and Evaluate: Regularly assess the program's effectiveness and make data-driven adjustments to enhance learning outcomes.

And Henda (2020) summarizes it this way for the blended learning stage:

1) Define Implementation Strategy: Establish a clear plan outlining the approach and objectives for blended learning.

2) Develop Conceptual and Theoretical Fundamentals: Understand the

underlying principles and theories that support blended learning.

3) Design Methodological and Procedural Guidelines: Create detailed guidelines to assist in the practical implementation of blended learning.

4) Implement Blended Learning in Existing Curricula: Integrate blended learning components into current educational programs.

5) Monitor and Assess: Continuously evaluate the effectiveness of the blended learning system and make necessary adjustments.

In this study, the blended learning stages proposed by Darma et al. (2019) were selected as the foundational framework for designing and implementing the experimental process due to their structured and comprehensive approach to integrating online and face-to-face instruction. Their three-stage model: (1) Online, (2) Face-to-Face, and (3) Online, provides a clear and logical progression that aligns with the objectives of enhancing Chinese reading ability and assessing student satisfaction. The first online stage facilitates the delivery of content and preparation for learning through digital platforms, offering students flexibility and access to resources tailored to their individual needs. The second stage, face-to-face instruction, emphasizes interactive engagement and deeper exploration of content, allowing teachers to provide targeted support and immediate feedback. The final online stage focuses on reflection, consolidation of acquired knowledge, and assessment, enabling both students and instructors to evaluate progress and learning outcomes effectively. This model's emphasis on combining digital and in-person methodologies ensures a balanced and adaptable learning experience, making it highly suitable for addressing the dual goals of improving academic performance and gauging satisfaction within the context of blended learning for seventh-grade Chinese language students. The systematic nature of Darma et al.'s framework, its alignment with the research objectives, and its proven applicability in educational settings underscore its relevance as the basis for this study.

2.1.2.7 Blended Learning Platform

Blended learning platforms serve as the foundation of modern educational environments, facilitating the seamless integration of online and face-to-face instruction. These platforms offer a diverse array of tools and resources designed to support the varying needs of both learners and educators. One notable example is

Moodle, an open-source learning management system (LMS) that delivers customizable and scalable solutions across a wide range of educational contexts. Moodle's features include course management, interactive activities, and assessment tools that help create engaging and effective blended learning experiences (Dougiamas & Taylor, 2003). Another widely used platform is Blackboard Learn, which supports course content delivery, communication, and collaboration through features such as discussion boards, virtual classrooms, and multimedia integration (Bradford et al., 2007).

Canvas is a cloud-based learning management system (LMS) recognized for its intuitive interface and robust mobile functionality, enabling students and teachers to access and engage with course materials from anywhere (*Learning Management System, LMS Software*, 2012). Google Classroom leverages the power of Google's suite of tools, such as Docs, Sheets, and Drive, to simplify the management of assignments, feedback, and collaboration in a blended learning environment (Mohd Shaharanee et al., 2016). Additionally, Edmodo combines social networking with learning management, providing a platform where teachers can share resources, assign tasks, and facilitate student collaboration in a secure online space (Trust, 2012).

These platforms support content delivery and exchange and provide analytics and reporting capabilities that help educators monitor student progress and adjust teaching strategies accordingly. The advantages of flexible and adaptable blended learning satisfy the different preferences and needs of different students. Ultimately, the quality of education may be maximized.

This study uses the Ding Talk platform. The Ding Talk platform offers a wide range of features that can be used in various domains, including online education (Ahiafor et al., 2023).

2.1.2.8 Ding Talk Platform

Ding Talk is a communication and collaboration platform developed by the Alibaba Group, initially designed for businesses but later adapted for educational purposes, particularly for distance and blended learning environments. Ding Talk offers various features such as instant messaging, video conferencing, task management, and file sharing, all of which can be used to support both online and offline learning

activities (Zhang et al., 2023). As a cloud-based platform, it supports large virtual classrooms, making it suitable for schools and universities during the COVID-19 pandemic and beyond (Sun et al., 2023).

Ding Talk is increasingly being adopted in the education sector for its ability to host large virtual classrooms and facilitate seamless communication between teachers and students. Its features include live streaming, file sharing, videoconferencing, and task management, making it ideal for both synchronous and asynchronous learning environments (Sun et al., 2023). Ding Talk plays an important role in blended learning by facilitating both online and offline learning modes. It enables instructors to upload educational materials, create virtual classrooms, and provide interactive learning experiences through quizzes, assignments, and live discussions (Yang, 2019). Studies have shown that combining Ding Talk with a blended learning model increases student engagement and retention (Lijiao, 2022). Its ability to support collaborative learning is another advantage, enabling students to work together on tasks despite being in different physical locations (Xu, 2020).

One of the main benefits of using Ding Talk in blended learning is its ability to flexibly support a variety of teaching methods. Its real-time communication tools enhance collaboration and feedback, enabling continuous teacher-student interaction even outside of class (Castro, 2019). In addition, Ding Talk's ability to integrate multimedia learning materials such as video lectures and live streams provides students with the flexibility to learn at their own pace, contributing to better knowledge retention and personalized learning paths (Xu, 2020). Despite the many advantages of Ding Talk, there are significant challenges to using it in blended learning. These include differences in the use of technology, especially in areas with limited internet connectivity, and the need to train teachers to maximize the functionality of the platform (Maharani, 2022). The complexity of managing online and offline learning through the platform can also overwhelm teachers unfamiliar with digital tools (Shu et al., 2017). In addition, Ding Talk's reliance on constant internet access may act as a barrier for students in less developed areas, thus limiting its widespread use (Langa, 2016).

In summary, Ding Talk has emerged as a powerful tool for supporting blended learning, offering a variety of features that enhance communication,

collaboration, and content delivery. Its adaptability to both synchronous and asynchronous learning makes it especially well-suited for educational settings that combine face-to-face and online instruction. As blended learning continues to evolve, platforms like Ding Talk are poised to play a vital role in shaping the future of education.

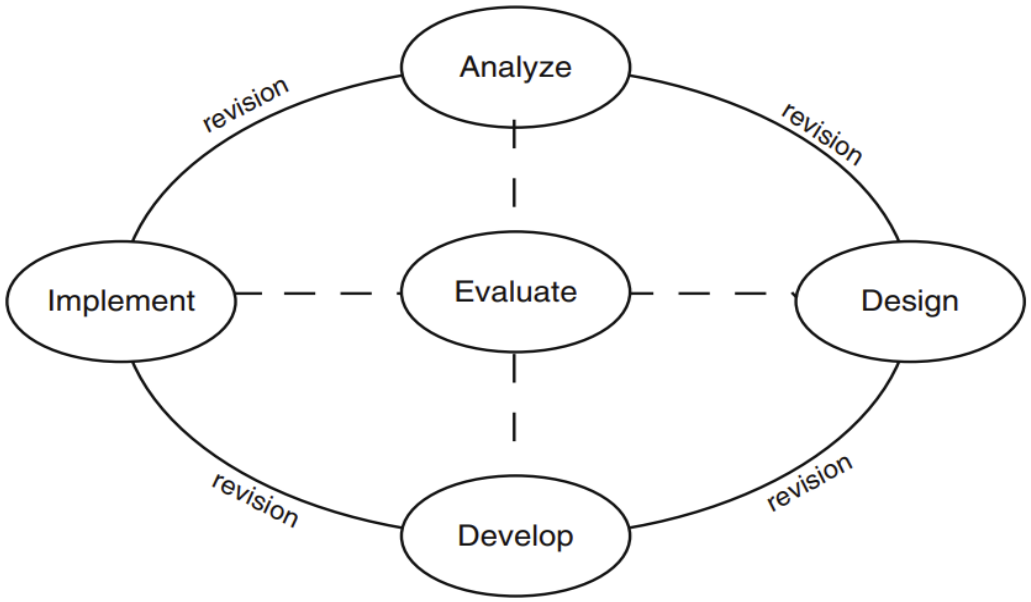
2.1.3 Instructional Design Mode

An instructional design model is a structured framework that guides the design and development of instructional materials, effectively enhancing student learning outcomes (Branch & Kopcha, 2014).

The ADDIE model is a well-established instructional design framework widely used to develop effective and efficient learning experiences, providing a systematic approach to developing education and training programs. The model comprises five steps: analysis, design, development, implementation, and evaluation (See Figure 2.2). Each stage plays a vital role in creating and optimizing educational interventions (Molenda, 2003).

Figure 2.2

ADDIE Concept



Note: From Branch, R. M. (2009). *Instructional Design: The ADDIE Approach* | SpringerLink. https://link.springer.com/book/10.1007/978-0-387-09506-6

The analysis phase involves identifying learning needs, goals, and objectives. This phase involves analyzing the target audience, understanding their prior knowledge, and identifying learning contexts and limitations (Branch, 2009). For seventh graders learning to read in Chinese, this phase would involve assessing their current reading level, identifying specific reading challenges, and understanding the educational environment and available resources.

During the design phase, a detailed plan of instructional strategies and materials is developed based on the analysis phase results. This includes outlining the structure of the program, selecting appropriate pedagogical methods, and designing assessments to measure learning outcomes (Dick et al., 2005). Reiser and Dempsey (2012) emphasize that the design phase should be iterative and involve continuous feedback to improve the instructional materials. The design phase ensures that the structure of the instructional materials is conducive to learning and retention. This phase may include combining digital resources with face-to-face instruction for blended

learning approaches to enhance students' Chinese reading ability.

The development phase focuses on creating and compiling instructional content and materials. This includes developing multimedia elements, creating instructional materials, and preparing assessment tools. Ensuring engaging and interactive content is critical in this phase, especially in blended learning environments (Gustafson & Branch, 2002).

During the implementation phase, the developed materials are delivered to students. This phase involves training teachers, preparing the learning environment, and providing the necessary resources for students (Allen & Seaman, 2011). Hodell (2016) notes that successful implementation requires careful planning and coordination to ensure that instructional delivery is seamless and that learners can engage with the material effectively. In blended learning environments, this may involve setting up online learning platforms, scheduling face-to-face sessions, and ensuring students can navigate and utilize online and offline resources effectively.

The assessment phase focuses on evaluating the effectiveness of instructional materials and learning outcomes. It includes both formative evaluation, which is carried out throughout each stage of the ADDIE process, and summative evaluation, which is conducted after the implementation to measure overall success. According to Kirkpatrick and Kirkpatrick (2006), evaluating a training program is essential to determine its impact on learners and identify areas for improvement. Evaluation ensures that the instructional design meets the learning objectives and provides insights for future improvement.

Integration and application of the ADDIE model:

The ADDIE model is widely adopted across diverse educational and training settings due to its flexibility and systematic methodology. It offers a structured framework that can be tailored to suit various learning environments and instructional goals. According to Molenda (2003), the iterative nature of the model allows for continuous improvement and ensures that the instructional design process remains dynamic and responsive to feedback. In addition, the ADDIE model has been integrated with other instructional design theories and models to increase its effectiveness. For example, integrating Gagné's Nine Events of Instruction within the ADDIE framework

can provide a more comprehensive approach to designing instructional experiences (Gagne et al., 2005).

The ADDIE model provides a comprehensive framework for developing instructional materials and strategies and ensuring that each phase contributes to practical learning experiences. By systematically following the ADDIE stages, educators can create comprehensive blended learning programs to enhance the Chinese reading ability of seventh-grade students who are learning Chinese reading.

2.1.4 Traditional Learning Methods

2.1.4.1 Definition of Traditional Learning Methods

Traditional learning methods refer to conventional educational practices that primarily involve face-to-face instruction in a classroom setting where the teacher directs the learning process. These approaches emphasize structured teaching and learning activities focusing on direct instruction, lecture-based delivery, and using textbooks and other printed materials as primary resources (Gauthier et al., 2004). Traditional learning methods favor passive learning, where students absorb the teacher's information through repetition and memorization techniques (Smith & Ragan, 2004). The traditional classroom is usually teacher-centered, with the educator being the primary source of knowledge and authority, guiding students through a predetermined curriculum. This approach usually involves rote memorization and repetitive exercises to reinforce learning (Schunk, 2012). Formal and disciplined environments ensure that educational standards are met and students are taught foundational knowledge and skills (Slavin, 2018). TLM components include 1) teacher-centered, 2) instructions and standards, and 3) presentations and lectures (McCabe & O'Connor, 2014). This learning method is conducted in face to face.

2.1.4.2 Benefits of Traditional Learning Methods

Traditional learning methods have several significant advantages that have made them enduring in the education system. Firstly, they create a structured environment that supports consistent and disciplined learning, essential for developing foundational knowledge and skills (Clark & Mayer, 2023). Secondly, face-to-face interactions in traditional classrooms allow for immediate feedback and clarification of queries, enhancing the learning process by catering to individual student needs in real-

time (Hattie, 2010). Third, traditional learning methods often incorporate various teaching strategies such as lectures, discussions, and hands-on activities to cater to different learning styles and promote a deeper understanding of the material (Marzano, 2003). Finally, the social aspect of the traditional classroom fosters collaboration and communication skills as students engage in group activities and discussions that enhance their social development and teamwork (Johnson & Johnson, 2009).

2.1.4.3 Challenge of Traditional Learning Methods

While effective in many ways, traditional learning methods face significant challenges in modern education. First, these methods rely heavily on a one-size-fits-all approach, which may fail to meet each student's varying learning needs and pace, leading to disengagement and lower retention rates (Tomlinson, 2001). Second, traditional classrooms may be physically and temporally constrained, limiting access to education for students who cannot attend due to geographic, financial, or scheduling issues (Moore et al., 2011). Thirdly, the lack of integration with modern technology may make traditional learning methods unattractive to digital natives accustomed to interactive and multimedia environments (Prensky, 2001). Finally, traditional learning methods can also challenge teacher workload and burnout. The demands of preparing and delivering lectures, grading assignments, and managing classroom behavior can overwhelm teachers, leading to high stress levels and burnout (Skaalvik & Skaalvik, 2015). This can negatively impact the quality of instruction and the overall learning experience for students.

2.1.5 Student Satisfaction

2.1.5.1 Definition of Student Satisfaction

In educational research, student satisfaction is usually defined as the degree of perceived fulfillment of students' expectations, needs, and aspirations regarding the learning process (Elliott & Shin, 2002). It encompasses multiple dimensions such as quality of teaching, learning environment, access to resources, and personal growth (Kuh et al., 2011). It reflects students' subjective assessment of their learning experience, including program content, teaching methods, technical support, and personal engagement (Aldridge & Rowley, 1998).

In the context of blended learning, student satisfaction is often related to

students' perceptions of integrating traditional and digital teaching methods, the usefulness of technological tools, and the flexibility of the learning experience (Garrison & Kanuka, 2004). It is widely recognized as a key indicator of the success of a pedagogical model and can significantly influence learning outcomes, motivation, and overall engagement in the learning process (Alqurashi, 2019). In blended learning environments, student satisfaction depends not only on the traditional aspects of teaching and learning but also on the effectiveness of digital platforms and how these platforms enhance learning and engagement (Arbaugh, 2000).

2.1.5.2 Benefits of Student Satisfaction

a) Increased Learning Engagement

One of the main benefits of student satisfaction in blended learning environments is increased student engagement. When students are satisfied with their learning experience, they are more likely to participate in classroom activities actively and remain engaged throughout the learning process (Graham, 2013). Combining digital resources and face-to-face instruction creates opportunities for deeper emotional and intellectual engagement, leading to better learning outcomes (Diep et al., 2017). This engagement is a key factor in the overall success of blended learning models (Lane et al., 2021). Additionally, more engaged students are likely to be more satisfied with their learning experience, which creates a positive feedback loop that improves their academic success (Owston et al., 2013).

b) Flexibility and Convenience

Another important benefit that enhances blended learning student satisfaction is the flexibility and convenience offered by this educational model. Blended learning allows students to access learning materials at any time, giving them the flexibility to organize their schedules to cope with other commitments, thus greatly increasing their satisfaction (Prifti, 2022). This flexibility is particularly favored by students who have additional responsibilities such as work or family obligations (Rahman et al., 2015).

c) Increased Interaction and Collaboration

The combination of online and face-to-face interactions creates a more dynamic learning environment that allows students to interact with their peers and

teachers in a variety of ways. This increased interaction improves students' sense of belonging and support, which leads to increased satisfaction (Kuo, Belland, et al., 2014). The ability to collaborate online also allows students to participate more effectively in group discussions and projects, resulting in a more fulfilling learning experience (Du & Wu, 2014).

d) Enhanced Learning Outcomes

Student satisfaction in blended learning is usually associated with improved academic performance and learning outcomes. Satisfied students are usually more motivated, which can lead to better academic performance (Cabero-Almenara et al., 2010). Research has shown that students who are satisfied with their blended learning experience tend to perform better in their courses because their satisfaction increases their engagement and willingness to participate in learning activities (Zhu, 2017). This relationship between satisfaction and performance highlights the importance of designing blended learning courses that cater to students' needs and preferences (Gyimah, 2019). Students are more likely to achieve positive learning outcomes when they perceive the blended learning format to be conducive to their academic progress (Boyle et al., 2003).

2.1.5.3 Challenge of Student Satisfaction

a) Technical Barriers

Technological barriers are one of the biggest challenges affecting student satisfaction with blended learning. Due to a lack of equipment, unreliable internet connections, or outdated software, the underuse of technology can severely hamper a student's learning experience (Jaggars & Di Xu, 2016). This digital divide is particularly acute for students in rural areas or from low-income families, making it difficult for them to participate in the online component of blended learning fully (Means et al., 2013).

b) Lack of Interaction

Blended learning environments can lead to less interaction between students and between students and instructors, which can reduce satisfaction. Although blended learning combines online and face-to-face elements, the online component often lacks real-time, meaningful interaction, which can lead to a sense of isolation

among students (Lane et al., 2021).

c) Lack of Teacher Support

Teacher expertise and support play a key role in blended learning, and the lack of adequate guidance from teachers is a major challenge. Teachers who are unfamiliar with blended learning models or who are unable to provide timely feedback can negatively impact student satisfaction (Sembiring, 2018). This challenge is further exacerbated by the difficulties some teachers face in adapting their teaching styles to the digital environment, which can lead to less effective communication and lower student satisfaction (Shea et al., 2003).

2.1.5.4 Components of Student Satisfaction

There are many components of student satisfaction. Navío-Marco et al. (2024) summarized student satisfaction. The components are listed below:

a) Perceived Learning

Perceived learning is a student's subjective assessment of their learning outcomes that encompasses understanding of the course content, relevance of the material, and effectiveness of the instructional method (Bravo et al., 2019). In a blended learning environment, perceptual learning can reflect students' assessment of the integration of online and offline instruction.

b) Complementarity

Complementarity refers to the extent to which online learning is integrated with traditional classroom instruction. Courses with a high level of complementarity enable students to take advantage of both formats gaining the flexibility offered by online learning and the interactive engagement of face-to-face instruction (López-Pérez et al., 2013). This balance enhances students' mastery of course content.

c) Perceived Flexibility / Interaction

Perceived flexibility refers to a student's ability to control the time and pace of learning. In blended learning, students can flexibly pace their learning according to their individual needs, enhancing the personalization and autonomy of the learning experience (Bergamin et al., 2012). Interactivity includes the interaction between students and teachers, peers, and learning content. In blended learning,

interaction helps to enhance students' engagement and motivation to learn and promotes deeper understanding and retention of knowledge (Kumar et al., 2021). Effective interaction not only improves the quality of learning but also enhances overall student satisfaction.

Kintu et al. (2017)summarized student satisfaction. The components are listed below:

a) Instructor Interaction

Effective communication and engagement with instructors significantly contribute to student satisfaction. Positive interactions, such as receiving timely feedback, guidance on course objectives, and personalized support, enhance the overall learning experience. Research indicates that instructor availability and willingness to engage in meaningful discussions reduce psychological distance, fostering a supportive learning environment. Such interactions help clarify course content, promote active participation, and ultimately improve learner satisfaction.

b) Course Content Quality

The alignment of course content with learning objectives is a critical determinant of satisfaction. High-quality content, which is well-structured, clear, and relevant to the learners' needs, facilitates comprehension and application of knowledge. Studies highlight that when the course material is perceived as valuable and useful, students are more likely to engage deeply with the content and feel satisfied with their learning experience.

c) Technology Quality

The usability and reliability of the technological platforms used in a course strongly affect satisfaction levels. Features such as ease of navigation, availability of resources, and the ability to access tools like discussion boards, chats, and assignment submissions enhance the learning experience. When technological issues are minimal, learners can focus on their studies, leading to higher satisfaction. Conversely, technical challenges often result in frustration and dissatisfaction.

d) Face-to-Face Support

Despite the incorporation of online learning, face-to-face sessions remain a vital component of student satisfaction in blended learning environments.

These sessions offer valuable opportunities for social interaction, real-time feedback, and direct communication with both peers and instructors. Many learners value the balance between online and in-person engagement, as it contributes to a more holistic and interactive learning experience.

e) Peer Interaction

Collaboration and interaction with peers play a significant role in shaping learner satisfaction. Peer discussions, group activities, and shared learning experiences foster a sense of community and mutual support. When students feel connected and valued within their learning environment, they are more likely to remain motivated and satisfied with their course.

Prifti (2022) for student satisfaction is the components are as follows:

a) Platform Accessibility

Platform accessibility refers to how easily students can navigate and interact with a Learning Management System (LMS). The user-friendly design of a platform, including simple navigation and intuitive interfaces, significantly impacts students' ability to engage with the learning materials effectively. Accessibility reduces frustration, enhances confidence in using technology, and ultimately contributes to overall satisfaction with the learning process.

b) Platform Content

The relevance and quality of platform content are crucial for student satisfaction. Content that aligns with course objectives, offers engaging materials, and includes diverse resources like videos, quizzes, and case studies ensures that students find the course valuable and applicable to their academic or professional needs. High-quality content enhances learning effectiveness and fosters a sense of accomplishment, directly influencing satisfaction.

c) Critical Thinking Enhancement

LMS platforms that incorporate features promoting critical thinking, such as problem-solving assignments, discussion forums, and interactive activities, contribute significantly to student satisfaction. When students perceive that the platform helps them develop analytical skills and think critically about course materials, they are more likely to view the learning experience positively and feel

invested in their education.

d) Self-Efficacy

Self-efficacy, or a student's belief in their ability to successfully navigate and utilize an LMS, is a strong predictor of satisfaction. Platforms that provide clear instructions, continuous feedback, and opportunities for students to gain confidence through successful task completion enhance self-efficacy. This, in turn, leads to higher engagement, persistence, and satisfaction with the learning experience.

Navío-Marco et al. (2024) provides a comprehensive framework for understanding and evaluating student satisfaction, making it a critical reference for this study on designing blended learning activities to enhance Chinese reading ability for seventh-grade students. The framework identifies key components of student satisfaction, including perceived learning, complementarity, perceived flexibility, and interaction, which directly align with the objectives of this research. These components not only offer clear and measurable criteria for assessing student satisfaction but also address essential aspects of blended learning, such as the integration of online and face-to-face instruction, flexibility in learning, and meaningful interactions. By adopting this framework, the study ensures that the evaluation of student satisfaction is grounded in a robust and evidence-based theoretical foundation. Furthermore, the emphasis on complementarity and interaction supports the blended learning model's goal of balancing the strengths of traditional and digital instruction to optimize learning outcomes and engagement. This alignment enhances the validity and reliability of the study's findings while providing actionable insights for improving the design and implementation of blended learning. Therefore, the selection of this framework is essential not only for evaluating the effectiveness of the proposed blended learning activities but also for achieving the broader research goals of understanding how such approaches can enhance both learning outcomes and student satisfaction.

The following is a summary of the student satisfaction component. See Table 2.3.

Table 2.3

Summary of Components of Student Satisfaction

Author	Component	Definition
Navío-Marco et al. (2024)	Perceived Learning	Perceived learning is a student's subjective assessment of their learning outcomes.
	Complementarity	Complementarity integrates online and traditional instruction, balancing flexibility and interactivity to enhance content mastery
	Perceived Flexibility / Interaction	Perceived flexibility fosters autonomous learning, while interactivity enhances engagement, understanding, and satisfaction in blended learning.
Kintu et al. (2017)	Instructor Interaction	Effective instructor communication and engagement, through timely feedback and personalized support, foster a supportive environment.
	Course Content Quality	Well-aligned, high-quality course content enhances comprehension and engagement, making it a key factor in student satisfaction.
	Technology Quality	Usable and reliable technological platforms, with accessible tools and minimal issues, enhance learning and satisfaction, while technical challenges lead to frustration.
	Face-to-Face Support	Face-to-face sessions in blended learning offer social interaction, real-time feedback, and balanced engagement, enhancing the learning experience and satisfaction.
	Peer Interaction	Peer collaboration and interaction foster community and support, enhancing motivation and satisfaction in the learning environment.
Prifti (2022)	Platform Accessibility	Platform accessibility refers to how easily students can navigate and interact with a Learning Management System (LMS).
	Platform Content	High-quality, relevant platform content aligned with objectives enhances learning, engagement, and student satisfaction.
	Critical Thinking Enhancement	LMS platforms that foster critical thinking through interactive features enhance student satisfaction by promoting analytical skills and engagement.
	Self-Efficacy	Self-efficacy, or a student's belief in their ability to successfully navigate and utilize an LMS, is a strong predictor of satisfaction.

2.2 Related Works

The author summarized several related studies.

Behjat et al. (2012) conducted a study on the effects of blended learning on reading comprehension among 107 Iranian students. The findings revealed that integrating traditional instructional methods with technology can significantly enhance learners' reading comprehension performance. Based on these results, it is recommended that teachers incorporate digital tools such as wikis to support students' reading development beyond the classroom.

Kazakoff et al. (2018) investigated the effectiveness of a blended learning approach on reading comprehension among English learners (ELs) and non-English learners (non-ELs). The intervention involved the use of Lexia Reading Core5 and included 442 ELs and 442 non-ELs. The results showed significant reading gains for both groups, with first-grade ELs outperforming their non-EL peers. The study suggests that blended learning can effectively support reading development in diverse student populations by leveraging adaptive technology and personalized instruction.

Schechter et al. (2017) examined the impact of teacher engagement on implementing a blended learning reading program and student reading skill improvement. The intervention consisted of the Lexia Reading Core5 program, with 19,366 primary school students as participants. Results indicated that students of participating teachers showed significant improvements in reading skills. It is recommended that schools provide additional teacher training to improve teacher engagement and student achievement. Limitations of the study included focusing on data from only one school year.

Schechter et al. (2015) examined the effects of blended learning on the reading skills of students with low socioeconomic status. The intervention consisted of Lexia Reading Core5; the participants were 84 first and second-graders. Results showed that the blended learning group showed significant gains in reading comprehension. The study recommended more teacher training to enhance participation, but the small sample size was a limitation.

Macaruso et al. (2020) examined the impact of blended learning on teaching

reading to elementary school students. The intervention used the Core5 reading program with 2217 experimental and 1504 control group students as participants. The results indicated that the experimental group made significantly greater improvements on reading tests compared to the control group. The study recommended that schools provide more teacher training to enhance teaching and learning, but the study's limitations included the fact that the sample allocation was not randomized.

Ghazizadeh and Fatemipour (2017) studied the effect of blended learning on Iranian EFL learners' reading ability. The study used a blended learning approach that included traditional learning methods and online reading tasks with 60 intermediate EFL learners as participants. The results showed that blended learning significantly improved students' reading ability. The study recommends using blended learning inside and outside the English classroom to enhance learning, but the study's limited sample size is a significant limitation.

Wu and Liu (2013) conducted a study to identify the factors influencing student satisfaction in EFL blended learning environments. They surveyed 360 non-English major undergraduate and postgraduate students at Dalian University of Technology using questionnaires and analyzed the data with SPSS. The findings revealed that most students expressed satisfaction with blended learning, with postgraduate students reporting even higher levels of satisfaction than undergraduates. Key factors affecting satisfaction included learning atmosphere, perceived enjoyment, and system functions. The study suggests enhancing system functions and creating a positive learning environment to maximize students' satisfaction with blended learning.

Rao (2017) investigated the use of blended learning in improving the English writing skills of 42 non-English major Chinese university students. The intervention included the use of WeChat, writing correction software, and classroom activities. The results showed that the students' writing skills improved significantly, with a 19-point increase in post-test scores. The study underscores the effectiveness of blended learning in enhancing students' motivation, information literacy, and critical thinking in writing. It recommends that educators integrate technology into their teaching practices to better address the evolving needs of their students.

Cheng et al. (2023) explored the factors that influence student satisfaction with

blended learning in higher education. The study applied statistical analyses to identify key influencing factors through a survey of 598 students from six universities. The results indicate that learning attitudes, program design, and teaching methods have a significant impact on satisfaction. The authors recommend focusing on strengthening these areas to optimize blended learning outcomes, despite the challenges posed by differences between online and offline resources.

Li (2022) conducted a quasi-experimental study to examine the impact of a Blended Learning Community (BLC) on the academic achievement and satisfaction of 74 Chinese university students studying English. The intervention combined online resources with face-to-face instruction. Results indicated that students in the BLC group outperformed those in the traditional learning group in both final exam scores and overall satisfaction. While the findings support the effectiveness of the BLC framework in enhancing academic performance, the study also acknowledges limitations, including a small sample size and the need for further research on a larger scale.

Ma et al. (2021) conducted a study to evaluate the impact of blended learning integrated with the BOPPPS model on 109 first-year Chinese health management students. The intervention group followed the BL-BOPPPS model, while the control group received traditional instruction. Findings revealed that the intervention group outperformed the control group in self-directed learning, learning initiative, and academic achievement. The authors recommend broader adoption of the BL-BOPPPS model to enhance teaching and learning quality, though they acknowledge that the small sample size is a limiting factor in the study.

Based on several related works above, blended learning has the potential to enhance reading ability. See Table 2.4 for a review of relevant literature.

Table 2.4

Related Literature Review

Authors	Objectives	Participants	Results	Recommendations/Implications/Limitations
Behjat et al. (2012)	Examining the effects of blended learning on reading comprehension	107 Iranian students	Blended learning significantly improves students' reading comprehension skills.	Teachers can use electronic tools such as wikis to help students practice reading comprehension outside the classroom.
Kazakoff et al. (2018)	Examining the Effectiveness of Blended Learning on Reading Comprehension for English Language Learners and Non-English Language Learners	442 English language learners and 442 non-English language learners	Both groups showed significant gains in reading comprehension, with first-grade ELLs outperforming non-ELLs	Blended learning can support the reading development of diverse student populations through adaptive technology and personalized instruction
Schechter et al. (2017)	Examining the Impact of Teacher Involvement on the Implementation of a Blended Learning Reading Programme and the Improvement of Students' Reading Skills	19,366 primary school pupils	Students of participating teachers showed significant improvement in reading skills.	Schools should provide more teacher training to improve teacher engagement and student achievement, and the study's focus on only one school years' worth of data is limiting.

Authors	Objectives	Participants	Results	Recommendations/Implications/Limitations
Schechter et al. (2015)	Examining the Impact of Blended Learning on the Reading Skills of Low-SES Students	84 first- and second-year students	Blended learning groups show significant improvement in reading comprehension.	More teacher training is recommended to enhance participation; the small sample size is a significant study limitation.
Macaruso et al. (2020)	Examining the Impact of Blended Learning on the Teaching of Reading to Elementary School Students	2217 students in the experimental group and 1504 in the control group	The experimental group improved significantly more than the control group on the reading test	Schools should provide more teacher training to enhance teaching and learning, and non-randomization of study sample allocation is a limitation
Ghazizadeh and Fatemipour (2017)	Examining the Effect of Blended Learning on Iranian EFL Learners' Reading Skills	60 intermediate EFL learners	Blended learning significantly improves students' reading skills	It is recommended that blended learning be used inside and outside the English language classroom to enhance learning; the limited sample size of the study is a limitation

Authors	Objectives	Participants	Results	Recommendations/Implications/Limitations
Wu and Liu (2013)	To determine the factors that influence student satisfaction in EFL blended learning.	360 non-English undergraduate and postgraduate students at Dalian University of Technology.	Postgraduate students were more satisfied; key factors were learning atmosphere, perceived enjoyment, and system functions.	Enhance system functions and create a positive learning environment.
Rao (2017)	To investigate the use of blended learning in improving English writing skills.	42 non-English major Chinese university students.	Significant improvement in writing skills; post-test scores increased by 19 points.	Teachers should embrace technology to meet student needs.
Cheng et al. (2023)	To explore the factors that influence student satisfaction with blended learning in higher education.	598 students from six universities.	Learning attitudes, program design, and teaching methods significantly impact satisfaction.	Strengthen learning attitudes, program design, and teaching methods to optimize outcomes.

Authors	Objectives	Participants	Results	Recommendations/Implications/Limitations
Li (2022)	To assess the impact of a blended learning community (BLC) on academic achievement and satisfaction.	74 Chinese university English students.	BLC group outperformed traditional learning in final exam performance and satisfaction.	BLC framework can improve performance, but larger studies are needed.
Ma et al. (2021)	To assess the impact of blended learning combined with the BOPPPS model on first-year health management students.	109 first-year Chinese health management students.	The intervention group outperformed control in self-directed learning, initiative, and academic achievement.	BL-BOPPPS should be implemented more widely, but the sample size was a limitation.

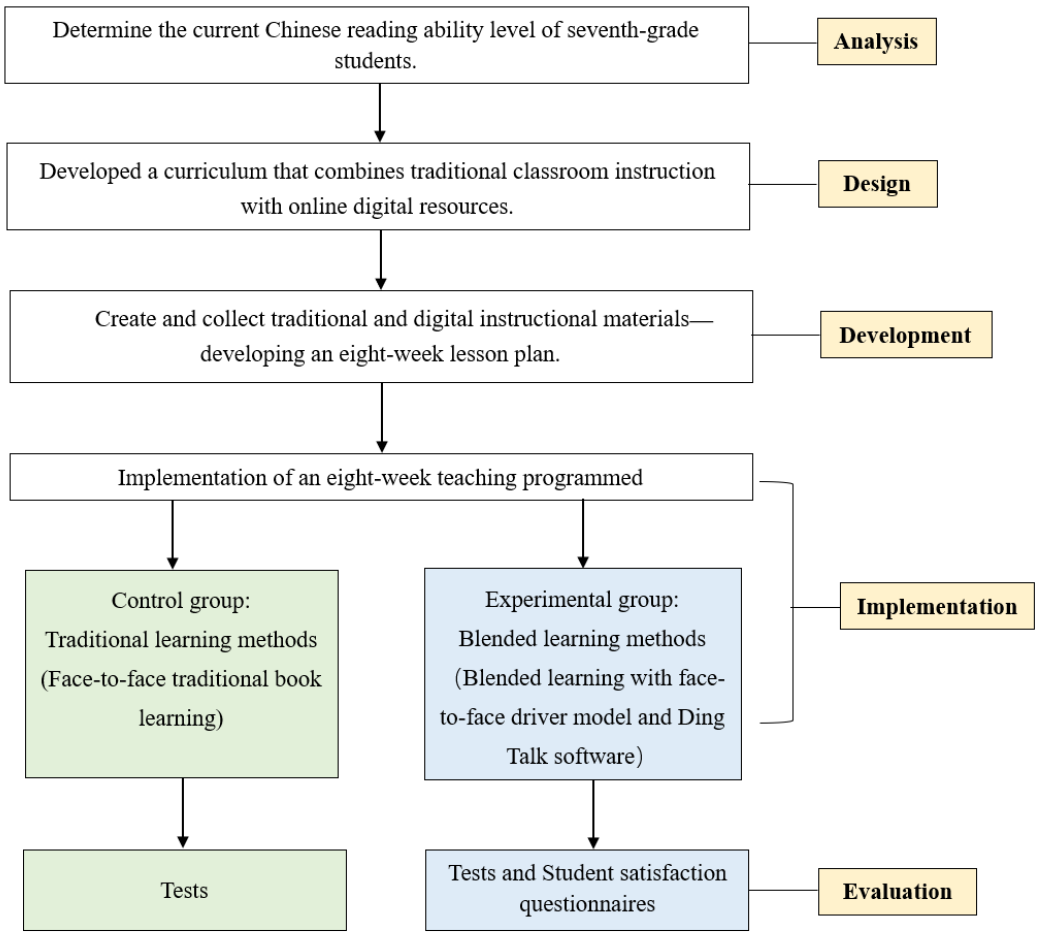
CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methodology adopted in this study. As stated in Chapter 1, the objectives of this study are (1) To develop blended learning activities to enhance the Chinese reading ability of seventh-grade students. (2) To determine the effectiveness of blended learning in enhancing the Chinese reading ability of seventh-grade students compared to those who received traditional learning methods. (3) To examine student satisfaction level toward blended learning. This study employs a two-group post-test design, consisting of an experimental group and a control group. The control group received instruction through traditional learning methods, while the experimental group engaged in blended learning. This chapter outlines the research design, describes the participants and research instruments used at each stage, and details the procedures for data collection and analysis. The research framework shown in the figure below (Figure 3.1) broadly follows the process of "Analysis-Design-Development-Implementation-Evaluation" and identifies at each stage the steps and content required for research or teaching intervention.

Figure 3.1

Research Framework

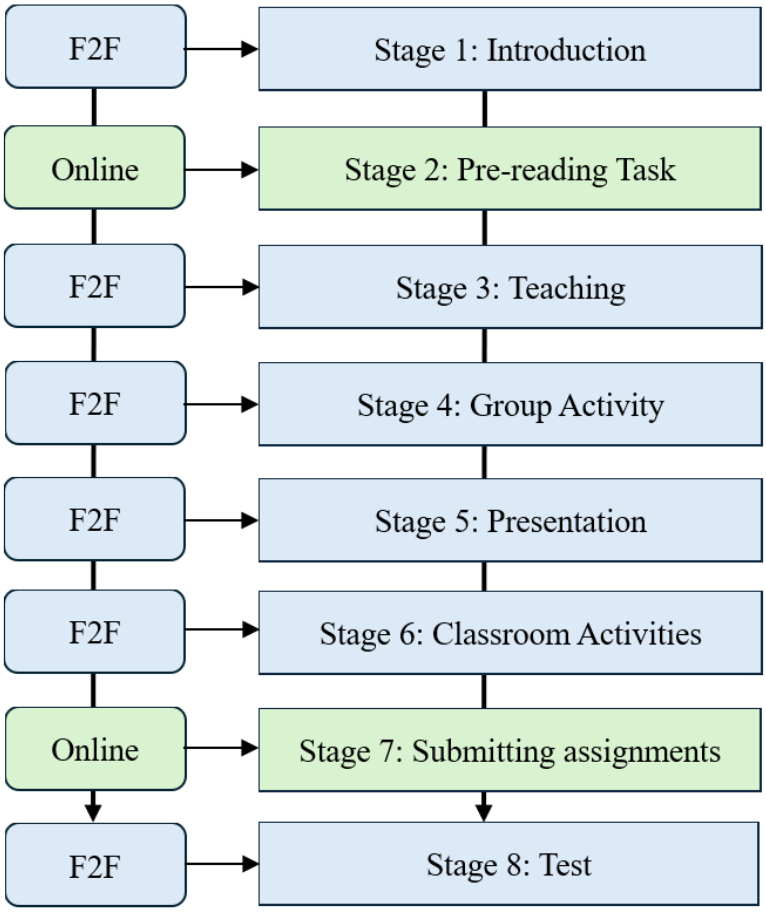


3.2 Learning Activity Development

At this stage, learning activities were developed based on blended learning and the ADDIE model of course instructional design. The BL activities are shown in the figure. Five experts were then invited to conduct the assessment. Figure 3.2 Pedagogical stages, adapted from the pedagogical steps of Darma et al. (2019). Detailed illustration of the instructional stages of the blended learning activity of this study.

Figure 3.2

Pedagogical Stages



Note: From Darma et al. (2019). The Development of Blended Learning Model in Applied Mathematics by Using LMS Schoology: Requirement Analysis Stage. *International Research Journal of Engineering, IT and Scientific Research, 5(6), 33-45.*

3.2.1 Participants

This study used a purposive method to select the experts for this stage. The participating experts came from Yunnan Normal University, Affiliated High School of Yunnan University of Science and Technology, Affiliated Experimental High School of Yunnan Normal University, and Guan Shang Experimental School. A total of 5 experts participated. They reviewed the validity of the experimental apparatus, lesson plans, and instruments. The details of the five experts are shown in Table 3.1.

Table 3.1

Basic Information of Experts

Name	Gender	Employer	Introduction
Xiaoyun Tan	F	Yunnan Normal University	Professor, College of Letters, Yunnan Normal University. Director of the Department of Teacher Education. Expert in the training of backbone teachers of junior middle school Chinese language
Qiaoyun Cheng	F	Yunnan Normal University	Associate Professor, College of Literature, Yunnan Normal University. Expert in Chinese language training for primary, middle, and high schools under the National Training Program of the Ministry of Education.
Xiaosong Qi	M	Affiliated High School of Kunming University of Science and Technology	Grade 1 secondary school teacher. Famous Teacher of Yunnan Province and "Subject Leader" of the Chinese Language in Wuhua District, Kunming.
Xiumei Wang	F	Guan Shang Experimental School	Senior Secondary School Teacher. Member of the Kunming Junior High School Chinese Language Teaching and Research Staff and head of the language subject preparation team.
Qiuju Sha	F	Experimental Middle School Affiliated to Yunnan Normal University	Senior Secondary School Teacher. Outstanding Teacher of Kunming Municipality

3.2.2 Research Instrument and Data Collection

At this stage, two research instruments were used. They were lesson plans and evaluation forms.

- **Lesson Plan:**

The study designed an eight-week lesson plan to ensure data validity and consistency with instruction. The lesson plan was designed in terms of instructional

time, instructional content, instructional objectives, teacher activities, student activities, and evaluation. Please see Appendix B for the detailed lesson plan.

- **Evaluation Forms:**

For the course instructional quality evaluation form, the study adopted Perris and Mohee (2020) quality assurance standards for blended learning. The evaluation form has a total of 49 Qualifiers in 8 dimensions. The eight main dimensions are Navigation/Orientation, Content, Instructional Design, Course Structure, Student Support, Technology/Media, Assessment, and Quality Assurance and Evaluation. The form has Qualifiers, which Perris and Mohee (2020) categorized into four levels:

Qualifiers:

- Strongly Agree: Fully meets the standard. No further testing, revisions, or updates are needed.
- Agree: Partially meets the standard. Some testing and updates have been conducted.
- Disagree: Has not been implemented yet.
- Strongly Disagree: Not applicable or not relevant.

To better support the experimental procedures of this study, facilitate expert review of instructional quality, and enhance the accuracy of statistical analysis, detailed rubric scores were assigned across four rating levels. "Strongly Agree" was assigned a score of 3, "Agree" a score of 2, "Disagree" a score of 1, and "Strongly Disagree" a score of 0. Table 3.2 presents the interpretation of the 4-point evaluation scale used in the assessment.

Table 3.2

Interpretation of 4-Point Evaluation Forms Measurements

Like-Scale Description	Scale	Scale Interval	Mean Descriptive Equivalent
Strongly Disagree	0	0.00 – 0.49	Strongly Disagree
Disagree	1	0.50 – 1.49	Disagree
Agree	2	1.50 – 2.49	Agree
Strongly Agree	3	2.50 – 3.00	Strongly Agree

For data collection of the evaluation form, I will send it to the experts through WeChat, a messenger software. When sending them, the experts will be informed that they will have one week to complete the form. When the expert has finished checking and scoring the form, it will be sent to me via WeChat. See Appendix C for a detailed table of the evaluation of teaching quality.

After the design of the Teaching Quality Evaluation Form was completed, five experts were invited to conduct an IOC validity test on the content of the evaluation form, and the results of the test can be found in Appendix G. As can be seen in Appendix G, the IOC values for all the questions ranged from 0.6 to 1, and were all greater than 0.5. This indicates that the design of the evaluation form passed the validity test. The evaluation form is valid and can be sent to experts for use.

3.2.3 Data Analysis

The data were analyzed for mean and standard deviation based on the scores of the five experts on the teaching quality evaluation form.

3.3 Learning Activities Implementation and Evaluation

3.3.1 Participants

Participants were drawn from Grade 7 students at Guan Shang Experimental School, Guandu District, Kunming, Yunnan Province, China. There are five classes in the seventh grade. The cluster sampling method was chosen for this experiment, and two of the five classes were selected. In this study, Grade 7 class 1 and Grade 7 class 2 were chosen for the experiment. One class was taught using traditional learning methods (traditional book-based instruction), while the other used blended learning. There were 35 students in each class and 70 students in both classes.

3.3.2 Research Procedure

Table 3.3 shows the design process of the experiment (two-group post-test design). Figure 3.3 illustrates the experimental activities conducted in this study. Students were divided into two groups: an experimental group and a control group. The experimental group received instruction through blended learning, while the control group was taught using traditional methods. Both groups were taught by the same teachers and used the same learning materials to ensure consistency across instructional

conditions. Teaching materials Learning materials were chosen from Journey to the West (ISBN: 9787107319532), a textbook recommended by the Chinese Ministry of Education for the 7th grade. Journey to the West consists of 100 chapters in 3 parts. According to the school's teaching schedule and curriculum standards, for the study of Journey to the West, in Grade 7, only the first two parts of chapters 1-22 need to be studied.

Teachers taught Chapters 1-14 of Journey to the West from the first week to the fifth week. The experimental group used multimedia and the Ding Talk platform to support teaching. In weeks 6-7, students in both groups were asked to do activities such as role-playing. The experimental group also used multimedia and the Ding Talk platform to support teaching. In Week 8, both groups of students were asked to take a classroom test to see how much they knew about Chapters 1-22 of Journey to the West. The Ding Talk platform is shown in Figure 3.4. An example of online teaching on the Ding Talk platform is shown in Figure 3.5.

Table 3.3

Experiment Designed

Group	Randomization	Treatment	Post-test
Experimental Group	R	X	O_1
Control Group	R		O_2

- R= Randomly assignment
- X= Treatment (Blended Learning)
- O_1= Measuring the post-test score (Experimental group testing scale)
- O_2= Measuring the post-test score (Control group testing scale)

Figure 3.3

Experimental Activities

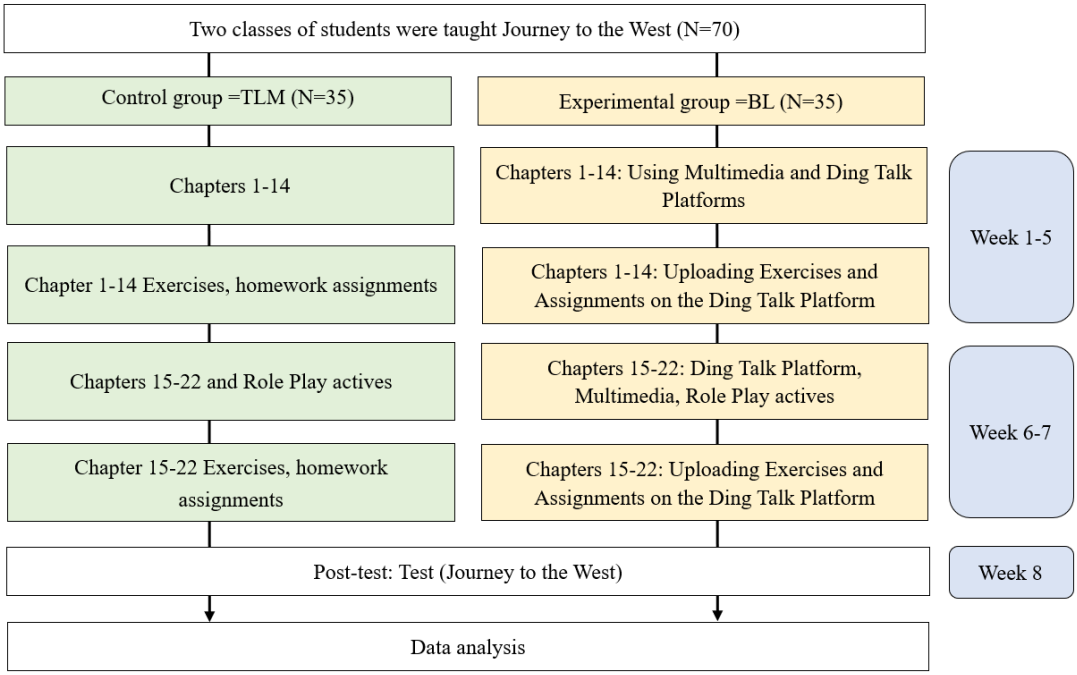
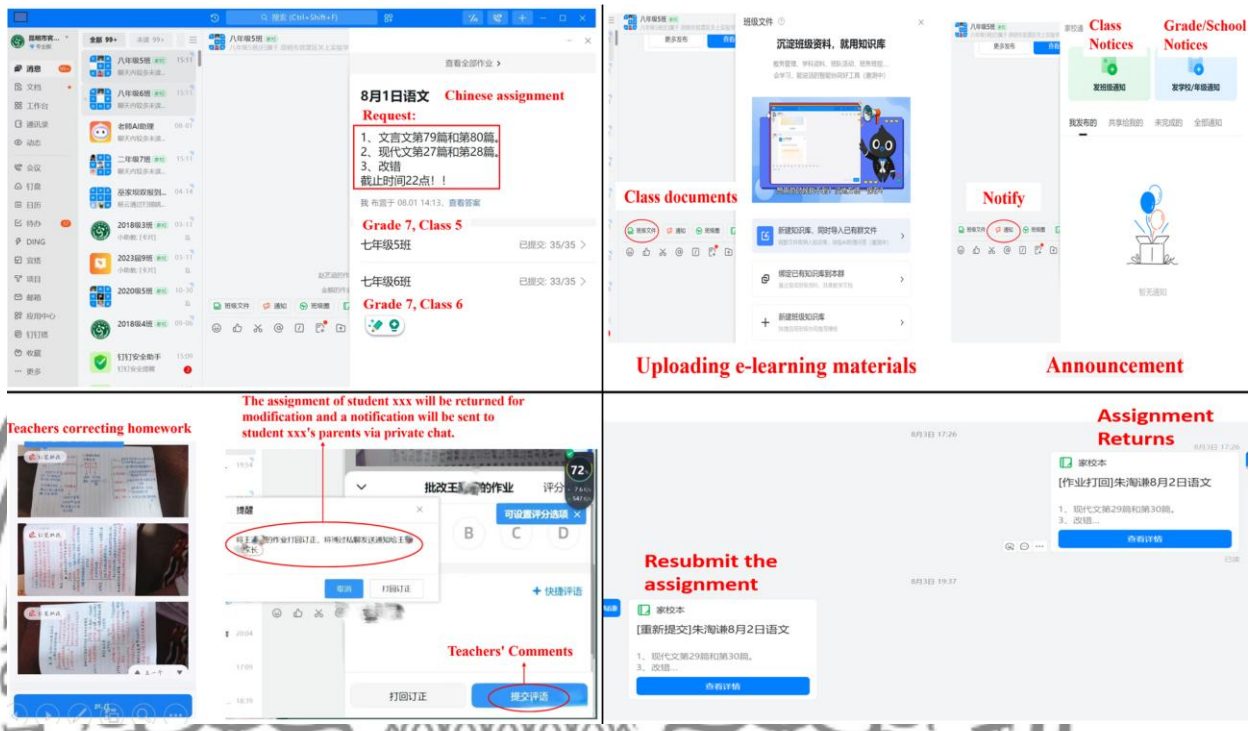


Figure 3.4

Ding Talk Platform

Figure 3.5

Examples of Online Teaching on the Ding Talk Platform



3.3.3 Research Instrument and Data Collection

The research instruments used in this stage were: Test.

There is no standardized test for the Journey to the West taught in this study. Therefore, after eight weeks of classroom instruction, I designed the test around all eight weeks of lesson content and the student's current level and situation.

The tests are designed to follow the test blueprint. The test is organized around five components of Chinese reading ability: Understanding and Summarization, Analysis and Evaluation, Integration and Application, Autonomy and Critical Thinking, Cultural and Emotional Understanding. The number of questions, values, and corresponding percentages corresponding to each dimension are detailed in Table 3.4.

The test consists of 30 questions with a total score of 30. The test paper consists of multiple-choice questions. Please take a look at Appendix D for test details.

For data collection for the tests, teachers distributed test papers to students for classroom testing during the last class of instruction in week 8. At the end of a session, the teacher collects the test on the spot.

Table 3.4

Test Blueprint for Journey to the West Testing

Test Blueprint					
Student Learning Outcomes	**Course Learning/ Objective Outcomes**	**Components of Chinese Reading ability**	**Number of Test Items**	**Point Value**	**(%) weight of test**
Understand the storyline and grasp the traits of main characters in Journey to the West	Identify key events and character traits in Journey to the West	Understanding and Summarizing	10	10	33%
Understand the reasons behind the characters' actions	Analyze character motivations and development	Analyzing and Evaluating	7	7	23%
Synthesize the pilgrimage story with real-world significance and understand the importance of teamwork	Analyze the collaboration and leadership within the pilgrimage team	Synthesizing and Applying	5	5	17%
Present independent perspectives on characters and the story	Provide critical viewpoints on the storyline	Independent and Critical Thinking	4	4	13%
Appreciate the linguistic beauty and cultural value of Journey to the West	Evaluate the emotional expressions and cultural heritage in the literary work	Cultural and Emotional Understanding	4	4	13%
	Totally		30	30	100%

3.3.4 Instrument Validity

After the test was designed, five experts were invited to conduct an Item-Objective Congruence (IOC) validity assessment of its content. The results, presented in Appendix H, show that the IOC values for the 30 test items ranged from 0.6 to 1.0, with all items scoring above the threshold of 0.5. This indicates that the test items met the required validity criteria. Therefore, the test is considered valid and suitable for administration to students.

3.3.5 Instrument Reliability

Next, we asked 35 students from the eighth grade of Guan Shang Experimental School to check the reliability of the test.

The meaning of the questions before and after the test was accurate, with no descriptive errors; the answer options of the test questions were differentiated, with no repetitions; and the one-to-one correspondence between the test paper and the answers was correct, with no multiple choices or wrong choices. At the same time, the KR-20 reliability test was conducted on the test data according to the test results (See Table 3.5).

Table 3.5

Test Reliability Checking

Question	KR-20 value	Result
Overall (30)	0.734	Reliability

3.3.6 Data Analysis

This research experiment employed a two-group post-test design for analysis. Initially, the data were examined for normal distribution. Upon confirming normality, the learning outcomes were analyzed using an independent samples t-test, along with descriptive statistics to compare the mean scores of the experimental and control groups. The primary inferential statistic used was the independent samples t-test, aimed at determining the impact of the blended learning intervention. The significance level was set at $p < 0.05$.

3.4 Student Satisfaction with Blended Learning

3.4.1 Participants

In the second stage of the study, participants were divided into experimental and control groups. This phase focused on the 35 students in the experimental group. At the end of the instructional period, these students were asked to complete a questionnaire survey to assess their satisfaction with the blended learning experience.

3.4.2 Research Instrument and Data Collection

The research instruments used in this stage were: questionnaires.

In order to measure students' satisfaction with the blended learning teaching method, a questionnaire was used at this stage. The questionnaire belongs to a Likert 5 scale. The questionnaire was designed according to Navío-Marco et al. (2024). The content of the questions of the questionnaire was modified according to the content of the study and the level of the students in this paper. Please see Appendix E for the detailed questionnaire. Table 3.6 shows the interpretation of the results of the 5-point student satisfaction questionnaire measure.

The collection of questionnaires was done through the Questionnaire Star platform. It was distributed to the students through the Questionnaire Star platform, a time was set and the students were asked to complete it within a specified period.

The meaning of levels in the Likert scale is:

5 = Very Satisfied

4 =Satisfied

3 = Not Sure

2 = Satisfied

1 = Very Dissatisfied

Table 3.6

Interpretation of 5-Point Student Satisfaction Questionnaire Measurements

Like-Scale Description	Scale	Scale Interval	Mean Descriptive Equivalent
Very Dissatisfied	1	1.00-1.49	Very Dissatisfied
Dissatisfied	2	1.50-2.49	Dissatisfied
Not Sure	3	2.50-3.49	Not Sure
Satisfied	4	3.50-4.49	Satisfied
Very Satisfied	5	4.50-5.00	Very Satisfied

3.4.3 Instrument Validity

Following the development of the questionnaire, five experts were invited to perform an Item-Objective Congruence (IOC) validity test to evaluate its content. The results of this assessment are provided in Appendix I. As can be seen in Appendix I, the IOC values for the 11 questions of the questionnaire ranged from 0.6 to 1, and the IOC values were all greater than 0.5, indicating that the design of the questionnaire passed the validity test. The questionnaire is valid and can be released for student use.

3.4.4 Instrument Reliability

Next, we asked 35 students from the eighth grade of Guan Shang Experimental School to test the reliability of the questionnaire.

The meaning of the questions before and after the questionnaire was accurate, with no descriptive errors; the meaning of the questionnaire options 1-5 points was clear, and so on. Cronbach Alpha reliability test was conducted for the questionnaire (See Table 3.7).

Table 3.7

Questionnaire Reliability Checking

Questions	Cronbach's α	Result
Overall (11)	0.862	Reliability

3.4.5 Data Analysis

The questionnaires were designed through the use of a 5-level Likert scale and the results were quantitatively analyzed to calculate the mean and standard deviation.

CHAPTER 4
RESULTS

The study entitled “Designing Blended Learning to Enhance Chinese Reading Ability for Seventh-Grade Students” has three main research objectives:

1) To develop blended learning activities to enhance the Chinese reading ability of seventh-grade students.

2) To determine the effectiveness of blended learning in enhancing the Chinese reading ability of seventh-grade students compared to those who received traditional learning methods.

3) To examine student satisfaction level toward blended learning.

Based on these research objectives, three research questions were formulated:

1) How can blended learning activities be developed to enhance the Chinese reading ability of seventh-grade students?

2) Does blended learning in a 7th-grade Chinese subject enhance students’ Chinese reading ability compared to traditional learning methods?

3) What is the level of satisfaction of students who receive blended learning?

To answer the research questions, the study was divided into three parts:

Section 1: Developing blended learning activities to enhance the Chinese reading ability of seventh-grade students

Section 2: The results of comparing the Chinese reading ability of students in blended learning and students in traditional learning methods.

Section 3: The results of learners’ satisfaction with blended learning.

4.1 Development of the Blended Learning Activities

This section describes the design and development of blended learning activities. The process of developing the design followed the ADDIE Instructional Design Model, where blended learning activities were systematically created and tested for feasibility by experts. See Figure 4.1 for blended learning classroom activities. See Figure 4.2 for blended learning student activities.

Step 1: Analysis Phase

In the analysis phase, the current level of Chinese reading ability of the seventh graders was determined. The content of the study, the materials to be used, and the objectives of the study were also determined according to the school's teaching program and curriculum.

Step 2: Design Phase

The design phase focuses on integrating learning objectives and instructional strategies. Blended learning activities were designed to align with the curriculum and meet identified needs. An eight-week lesson plan was developed using Journey to the West as the core learning material. There are many types of blended learning and in this study, it was determined that a face-to-face driver model was used. A percentage of online and face-to-face activities was also established. This specifically included 75% face-to-face activities and 25% online activities.

Step 3: Development Phase

In the development phase, detailed lesson plans were created. The lesson plan detailed the design of the blended learning activities in each lesson, specifically including the teaching content, teaching objectives, teacher activities, and student activities for each lesson. It also identifies the use of the Ding Talk platform as the online learning platform and the content of the online teaching carried out by the Ding Talk platform.

After the design of the lesson plans for the specific blended learning activities was completed, five experts in related fields were invited to evaluate the designed blended learning activities. The mean and standard deviation of the scores given by the experts were also analyzed. The results showed that the mean scores of all questions were greater than 1.50, and overall the experts were positive about the design of the blended learning activities. The feasibility of the blended learning activities was indicated.

Step 4: Implementation Phase

This phase focused on the implementation of the blended learning activities. A two-group post-test experimental design was employed, with the experimental and control groups selected through cluster random sampling. The experimental group received instruction through blended learning activities, while the control group was

taught using traditional methods. Both groups were instructed by the same teacher, using identical content and equal instructional time.

Step 5: Evaluation Phase

At the end of the 8-week instructional period, both groups of students were required to take a test of their Chinese reading ability. to assess the effectiveness of the instructional intervention of the blended learning activity.

The results of the expert evaluation form are shown below (see Table 4.1). The results showed that experts generally strongly agreed with the design of the blended learning activities, with an overall mean score of 2.43 (SD = 0.68), which corresponds to "Agree". Experts highlighted the clarity and ease of navigation, effective integration of online and face-to-face components, and well-defined learning outcomes as key strengths of the design. The content was praised for its alignment with academic and professional standards, though there is room to enhance engagement through more interactive and descriptive media. Instructional design elements, including active learning strategies and opportunities for interaction, received positive feedback, although the limited integration of external tools suggests potential areas for improvement. The course structure was commended for its logical presentation and flexibility, while aspects such as library resource accessibility could be further strengthened. Student support emerged as a standout feature, with experts appreciating the clarity of instructions and timely feedback mechanisms, which contributed to the highest mean score of 2.65 (SD = 0.50). Technological aspects, including device compatibility and tools supporting collaboration, were positively evaluated, though offline accessibility remains an area for development. Assessments were noted to be effective but could benefit from stronger alignment with learning outcomes. Finally, the course's quality assurance and evaluation processes were rated highly, particularly for their focus on regular updates and learner feedback mechanisms. These results reflect the overall effectiveness of the blended learning activities while identifying opportunities for enhancement in areas such as content engagement, tool integration, and assessment design. (See Appendix F for detailed results.)

Table 4.1

Results of the Evaluation Form

Quality Element	Mean	SD	Meaning
1. Navigation / Orientation			
a) There are instructions on how to navigate the course site.	2.40	0.55	Agree
b) There are instructions on how learners should engage with a blended learning course and what proportions of the course are online and face-to-face.	2.60	0.89	Strongly Agree
c) Where feasible, materials open in the course site rather than as pop-up windows, etc. (i.e., separate Word docs).	2.40	0.89	Agree
d) A specific button at the top of a specific page makes it easy to navigate the course website.	2.20	0.84	Agree
e) There is sufficient indication of where materials are to be used online and in face-to-face settings.	2.60	0.89	Strongly Agree
f) There is a help option to support learners with FAQs, etc.	2.60	0.89	Strongly Agree
Average	**2.47**	**0.83**	**Agree**
2. Content			
a) Learning outcomes are clearly defined against academic / workplace standards	2.60	0.55	Strongly Agree
b) Levels of learning outcomes are aligned with our school's instructional goals.	2.40	0.55	Agree
c) The descriptive text and media promote a good understanding of the subject matter.	2.00	1.00	Agree
d) The content promotes interaction amongst students and with the instructor.	2.60	0.55	Strongly Agree
e) Comply with school policies for hours of study.	2.80	0.45	Strongly Agree
f) The course level is identified (i.e., introductory or upper level, prerequisites required).	2.20	0.84	Agree
g) The course content is accurate, up to-date.	2.60	0.55	Strongly Agree
h) The content meets the institutional requirements.	2.40	0.89	Agree
i) The references are reliable (i.e., proper information, active links), relevant, and up-to-date.	2.60	0.55	Strongly Agree

Quality Element	Mean	SD	Meaning
j) The materials are properly cited and referenced and free of plagiarism.	2.80	0.45	Strongly Agree
k) The materials have been copy edited for accuracy, typographic errors, format, style, content and workable links.	2.40	0.55	Agree
Average	**2.49**	**0.63**	**Agree**
3. Instructional Design			
a) Learners are exposed to a variety of learning activities.	2.20	0.84	Agree
b) Learning activities / instructional materials are linked to learning outcomes.	2.20	0.84	Agree
c) Instructional materials contribute to the achievement of the stated learning outcomes.	2.40	0.55	Agree
d) Active learning strategies are used that engage the student and promote the achievement of the stated learning outcomes.	2.80	0.45	Strongly Agree
e) Learning activities provide opportunities for interaction (student–student, student–instructor, and with materials /technology) that support active learning.	2.80	0.45	Strongly Agree
f) Access to external programs / software is available (e.g., Ding Talk).	2.00	1.00	Agree
g) Media is thoughtfully integrated into the course (i.e., short videos and a variety of interactive features).	2.80	0.45	Strongly Agree
h) The Ding Talk is learner-friendly (e.g., minimal clicks, minimal external links or documents to access, as is feasible).	2.20	0.84	Agree
i) There are learning activities designed to engage students in critical thinking.	2.40	0.55	Agree
Average	**2.42**	**0.66**	**Agree**
4. Course Structure			
a) The presentation is logical (e.g., sequential, well-paced).	2.60	0.55	Strongly Agree
b) The course structure is flexible, allowing for easy updating of content in units, activities, assignments and learning materials.	2.40	0.55	Agree

Quality Element	Mean	SD	Meaning
c) The course structure includes links to library research databases, as well as accessible links on the Ding Talk platform.	2.20	1.10	Agree
d) Where practicable, the course has been appropriately licensed as an Open Educational Resource (OER) for this school.	2.40	0.89	Agree
e) The course meets institutional guidelines or is consistent relative to formatting/templates, etc.	2.20	0.84	Agree
f) The course structure enables a good mix of learning resources and faculty support.	2.40	0.55	Agree
Average	**2.37**	**0.75**	**Agree**
5. Student Support			
a) The course has clearly defined instructions for learners to satisfy the course requirements (e.g., tasks, assignments) as well as the learning outcomes of the course.	2.80	0.45	Strongly Agree
b) Teachers are adequately trained and qualified to facilitate the blended course.	2.60	0.55	Strongly Agree
c) Students are provided with orientation to the online components of the course and registration facilities (Ding Talk platform).	2.40	0.55	Agree
d) There are clear instructions on how and when students should expect feedback (e.g., within three days).	2.80	0.45	Strongly Agree
Average	**2.65**	**0.50**	**Strongly Agree**
6. Technology / Media			
a) The selection of technological tools (e.g., Ding Talk, mobile applications) has been carefully considered regarding infrastructure and learner access.	2.20	1.10	Agree
b) The selected technologies support completion of activities that enhance the learning outcomes.	2.60	0.55	Strongly Agree
c) The Ding Talk provides an option to download resources for offline consumption (e.g., as pdf files).	2.20	0.84	Agree
d) The technology enables learners to communicate and collaborate.	2.60	0.55	Strongly Agree
e) The course site is device / browser agnostic (i.e., operational on mobile devices, multiple browsers).	2.80	0.45	Strongly Agree

Quality Element	Mean	SD	Meaning
Average	**2.48**	**0.70**	**Agree**
7. Assessment			
a) Learners are provided with information on how they will be assessed in the course.	2.00	0.71	Agree
b) Marking guides for papers and examinations are provided.	2.20	0.45	Agree
c) Assessment measures include formative and summative assessments.	2.20	0.45	Agree
d) Assessment tools can facilitate self-evaluation or feedback.	2.20	1.10	Agree
e) Assessment tools measure mastery of learning outcomes.	1.80	0.84	Agree
Average	**2.08**	**0.71**	**Agree**
8. Quality Assurance and Evaluation			
a) The course has been / is being subjected to quality assurance processes and with the same rigor as a face-to-face course.	2.60	0.55	Strongly Agree
b) Plans / schedules are in place for online courses to be reviewed to ensure that the provider keeps pace with changes in technology and content.	2.40	0.89	Agree
c) Course evaluation is enabled for learners to provide feedback on the blended learning experience, including the course content.	2.60	0.55	Strongly Agree
Average	**2.53**	**0.66**	**Strongly Agree**
Overall (49)	**2.43**	**0.68**	**Agree**

In conclusion, the blended learning activities designed in this study are feasible. The importance of blended learning activities and Chinese reading ability was affirmed after evaluation and testing by experts. It was emphasized that blended learning activities provide a new approach to enhancing seventh-grade students' Chinese reading ability by combining traditional instruction with innovative digital tools to improve student learning outcomes. These findings provide a solid foundation for further implementation and testing in an authentic classroom setting.

Figure 4.1

Blended Learning Classroom Activities

Figure 4.2

Blended Learning Student Activities

4.2 Effect of Blended Learning Activities and Traditional Learning Method

I used random cluster sampling to randomly select two classes totaling 70 students from a total of 175 seventh-grade students at Guan Shang Experimental School in Kunming, Yunnan Province, China, to form an experimental group (35 students) and a control group (35 students). Students in both groups were required to complete a post-test at the end of the 8-week course. The test consisted of a total of 30 questions of 1 point each, totaling 30 points.

The data obtained were first tested for normality. Since both the control and experimental groups were 35, (see Table 4.2), and both were less than 50, the Shapiro Wilk data was selected for viewing. The Shapiro-Wilk statistic for the control group was 0.956 (df = 35, p = 0.179), while the Shapiro-Wilk statistic for the experimental group was 0.960 (df = 35, p = 0.222). The above results indicate that the data of the experimental and control groups did not significantly deviate from normal distribution (p>0.05). These results are consistent with the normality assumption and therefore can be safely analyzed in the next step.

In statistics, to determine whether there is a significant difference between the experimental group and the control group in terms of Chinese reading ability, I am using the independent samples T-Test test for my analysis.

As seen in Table 4.3, after the teaching intervention, the control group's mean

score was 24.09 with a standard deviation of 2.33. In contrast, the mean score of the experimental group was higher at 25.86 with a smaller standard deviation of 2.28. This result shows that the mean score of the students' scores in the experimental group was higher than that of the control group after the teaching intervention and that to a certain extent, blended learning enhances the Chinese reading ability of the students.

Table 4.2

The Normality of the Tests

Group	Shapiro-Wilk		
	Statistic	df	Sig.
CG	0.956	35	0.179
EG	0.960	35	0.222

Table 4.3

Independent Samples Test

Dependent variable	Group	N	X	SD	Levene's Test		t	df	Sig.	Result
					F	Sig.				
BL	EG	35	25.86	2.28	0.037	0.848	-3.216	68	<.001	EG>CG
	CG	35	24.09	2.33						

The results of Levene's test showed that the hypothesis of equal variances was established ($F = 0.037$, $p = 0.848$), which showed that there was no significant difference between the score variances of the experimental group and the control group, meeting the requirement of homogeneity of variances, thus supporting the hypothesis (See Table 4.3).

The results of the t-test indicated that the blended learning intervention had a positive impact on the students' Chinese reading ability. Specifically, the results of the t-test showed a statistically significant difference between the two groups, $t(68) = -3.216$, $p<0.001$. These results indicate that the blended learning intervention positively impacted students' Chinese reading ability. The blended learning instructional intervention significantly enhanced students' Chinese reading ability. This suggests that the intervention is effective in enhancing students' academic performance.

4.3 Student Satisfaction with Blended Learning Activities

In this stage, the experimental instrument used was a questionnaire. The questionnaire was based on a 5-point Likert scale. It was divided into the following three sections: (a): perceived learning, (c): complementarity, (d): perceived flexibility/ interaction.

In the satisfaction questionnaire, participants rated "Perceived learning, Complementarity, Perceived flexibility / Interaction". I found that all the average scores were higher than 3.5 (out of 5), which shows that students' overall satisfaction with blended learning is high and they have a positive attitude. In particular, the question ("The videos uploaded by the teacher have allowed me to complement the didactic material of the subject.") scored the highest, reaching 4.11. This shows that students are highly satisfied with the blended learning activities. In addition, the three questions ("Content on the Ding Talk platform is more effective than printed learning content.", and "The blended learning methodology has allowed me to have more flexibility and self-regulation of learning.") all received high scores of 4.03 (See Table 4.4).

Table 4.4

Results of Student Satisfaction with Blended Learning Activities

Questions	Mean	SD	Meaning
Perceived learning			
1. The blended learning methodology has allowed me to better understand the theoretical and practical concepts of the Chinese subject.	3.77	1.11	Satisfied
2. The blended learning methodology has helped me to improve the planning of the learning process.	3.66	0.91	Satisfied
3. The blended learning methodology has helped me to improve my performance in the Chinese subject.	3.60	1.01	Satisfied
4. Using the Ding Talk platform can improve information retention through video playback.	3.60	1.06	Satisfied
Average	3.66	1.02	Satisfied
Complementarity			
5. The videos uploaded by the teacher have allowed me to complement the didactic material of the subject.	4.11	0.80	Satisfied
6. The blended activity allows the acquisition of competencies that are not acquired with traditional learning methodologies.	3.86	0.94	Satisfied

7. Content on the Ding Talk platform is more effective than printed learning content.	4.03	0.79	Satisfied
Average	4.00	0.84	Satisfied
Perceived flexibility / Interaction			
8. The blended learning methodology has allowed me to have more flexibility and self-regulation of learning.	4.03	0.89	Satisfied
9. The blended learning methodology improves the flexibility of educational content since it allows its exchange and conservation.	3.06	1.03	Not Sure
10. Content created through the Ding Talk platform can be reused and subject material improved.	3.89	0.96	Satisfied
11. The blended learning methodology allows for promoting collaborative learning environments and generating user networks that share, interact, and collaborate.	3.57	0.88	Satisfied
Average	3.64	0.94	Satisfied
Totally	3.74	0.94	Satisfied

These data show that students are not only satisfied with the overall design of blended learning activities, but also recognize in particular its advantages in terms of flexibility in learning, enhanced complementarity of learning content, and increased effectiveness of learning resources. In particular, in terms of flexibility and self-regulation, blended learning fully meets students' needs for personalized learning and helps them manage their learning time and resources more efficiently.

Despite the overall high level of student satisfaction with the blended learning activities, there is still room for further improvement in the practical application of this teaching mode. It is recommended that blended learning activities be continuously optimized and upgraded in the future. For example, students' learning experience can be further enhanced by enriching the variety of learning resources, improving the interactive experience of the learning platform, and adding targeted feedback mechanisms. This process of continuous improvement will not only consolidate students' satisfaction with blended learning but will also promote the wider application of blended learning methods in teaching practice.

CHAPTER 5
SUMMARY, DISCUSSION, AND RECOMMENDATIONS

The research title “Designing Blended Learning to Enhance Chinese Reading Ability for Seventh-Grade Students” had three objectives, which were:

1. To develop blended learning activities to enhance the Chinese reading ability of seventh-grade students.
2. To determine the effectiveness of blended learning in enhancing the Chinese reading ability of seventh-grade students compared to those who received traditional learning methods.
3. To examine student satisfaction level toward blended learning.

5.1 Summary

The summary of this study is divided into four sections:

5.1.1 Summary of the Development of the Blended Learning Activities

5.1.2 Summary of Enhancing the Chinese Reading Ability of Seventh-Grade Students

5.1.3 Summary of Student Satisfaction with Blended Learning Activities

5.1.1 Summary of the Development of the Blended Learning Activities

The design of blended learning activities plays a vital role in the teaching and learning process, as it directly influences the implementation of instructional methods, content delivery, learning processes, and overall teaching quality. Therefore, this study focuses on designing blended learning activities aimed at enhancing the Chinese reading ability of seventh-grade students. Thus, ensuring its relevance, correctness, and effectiveness. The following are the detailed steps followed in this study:

Step 1: Establishing a Theoretical Foundation

In this initial phase, an extensive literature review was conducted to establish a strong theoretical foundation. The review provided an in-depth understanding of the definition, types, components, and benefits of blended learning. Based on the analysis, the Face-to-Face Driver Model was selected as the instructional

framework for this study. Two core components of blended learning activities—face-to-face instruction and online learning were identified. This phase laid the groundwork for the design of effective blended learning activities.

Step 2: Identify Learning Objectives and Content

Based on the theoretical framework, I designed a structured framework for blended learning activities. The existing learning objectives of the Chinese reading course Journey to the West were analyzed reorganized and designed as blended learning modules. The learning modules follow the Face-to-Face Driver Model closely and are designed in two general directions: online learning and face-to-face learning.

Step 3: Development of Digital Content and Tools

In this step, I have chosen the Ding Talk platform as a platform for online learning. It is used for scheduling, resource sharing, online discussions, and submissions. I have deployed its configuration, and functionality to suit the educational environment and to ensure that it will work and be used properly in teaching and learning activities.

Step 4: Design of Learning Activities and Frameworks

Based on the teaching objectives, content, and the use of the Ding Talk online platform, a detailed teaching framework and specific learning activities were designed. This included strategies to ensure effective integration of face-to-face and online learning, as well as careful planning of the proportion between the two modes. The goal was to ensure that blended learning is effectively implemented within both the instructional design and classroom activities.

Step 5: Validation of Blended Learning Activities

After completing the instructional design of the specific blended learning activities, five experts in relevant fields were invited to evaluate them as a means of validation. Each expert assessed and scored the instructional activities. The positive feedback received confirmed both the effectiveness of the designed activities and their potential for broader implementation.

In summary, this study starts with theoretical research, determines the proportion of face-to-face activities and online activities according to the Face-to-Face Driver Model of blended learning, and then chooses the Ding Talk platform as the online learning platform. After the specific design of the blended learning activity

according to the teaching objectives and teaching content. The blended learning activity proves the feasibility of the blended learning activity by being verified by experts.

5.1.2 Summary of Enhancing the Chinese Reading Ability of Seventh-Grade Students

This section presents the results of an instructional experiment. To better determine the effectiveness of the implementation of blended learning activities. The study involved 35 students in the experimental group (blended learning activities) and 35 students in the control group (traditional learning methods).

First, a test related to the Chinese reading ability course (Journey to the West) was designed and the scoring criteria for the test were determined to make the evaluation reasonable and reliable for both the experimental and control groups.

Next, Journey to the West was taught to the experimental and control groups. The experimental group was taught using blended learning activities and the control group was taught using traditional learning methods. Both groups were taught by the same teacher, teaching the same content and for the same length of time.

Finally, at the end of the course, a post-test was administered to the students in the experimental and control groups. Statistical significance was analyzed using an independent samples t-test. The results showed that the experimental group scored significantly and statistically higher in Chinese reading ability than the control group.

In summary, a uniform evaluation standard was used in the teaching of the Chinese reading course. The post-test results revealed that the scores of the experimental group using blended learning activities increased significantly compared to the control group, emphasizing the importance of blended learning activities in Chinese reading.

5.1.3 Summary of Student Satisfaction with Blended Learning Activities

In order to understand students' satisfaction with blended learning activities in Chinese reading courses, a student satisfaction questionnaire containing three dimensions: perception of learning, complementarity and flexibility/interactivity was used. This questionnaire was distributed to students for completion through the Questionnaire Star platform. A total of 35 students from the experimental group (BL) were asked to complete this questionnaire. The results showed that the satisfaction questionnaire consisted of 11 questions, 10 of which were scored at 3.50 or above,

which indicated that the students were satisfied with the blended learning activities.

To summarize, overall student satisfaction with the use of blended learning activities in the Chinese reading classroom was high. The study emphasized the importance of well-designed blended learning activities. It highlights the role of blended learning in improving student achievement, especially in Chinese reading ability.

5.2 Discussion

In the discussion section, I focused on three aspects of blended learning activity development, teaching effectiveness, and student satisfaction with blended learning activities, and analyzed the significant effects of blended learning activities on the dependent variables in teaching Chinese reading courses.

5.2.1 Discussion of the Development of the Blended Learning Activities

This study develops a blended learning activity that focuses on designing an effective learning method that combines traditional learning methods with supplemental online components in order to enhance the Chinese reading ability of seventh-grade students. This section analyses the rationale, structure, and implementation process of blended learning activities and situates the discussion within the existing literature.

The development of blended learning activities in this study followed the ADDIE instructional design model, which provides a systematic and iterative framework for ensuring that instructional interventions are aligned with student needs and learning goals. A key strength of the model is its ability to maintain flexibility in the design process and its ability to be adapted based on ongoing feedback from teachers and students (Branch, 2009; Molenda, 2003). Through the use of the ADDIE model, the blended learning activities in this study were optimized to meet the specific requirements of teaching seventh grade Chinese reading, ensuring that the activities were pedagogically sound, engaging, and easy to understand. This systematic approach allowed for comprehensive planning and continuous improvement, as supported by Brown and Voltz (2005), who emphasize that iterative design is critical to aligning instructional activities with learner needs and educational goals.

The blended learning activities in this study were guided by the face-to-face driver model and utilized a time allocation of 75% face-to-face instruction and 25% online learning. This ratio choice is based on the support of several studies that demonstrate its effectiveness in improving student learning outcomes (Alammary, 2019; Ibrahim & Rinantanti, 2023; Masyitah et al., 2014). The face-to-face portion of instruction focuses on the development of foundational reading abilities; while the online learning portion extends the time and space for classroom learning through the Ding Talk digital platform by providing multimedia resources, collaborative activities, and continuous assessment tools, thus playing an important role in promoting active participation and personalized learning paths (Dziuban et al., 2004). Although other ratio combinations (e.g., 50% face-to-face + 50% online or 60% face-to-face + 40% online) have been used in blended learning, research has shown that these ratios have less applicability to secondary school students. 50% + 50% may lead to a lack of self-discipline due to a high proportion of online learning, which may weaken learning (Hikmah & Chudzaifah, 2020), and Whereas the ratio of 60% face-to-face + 40% online, although slightly better, still limits the important role of face-to-face interaction and immediate feedback in language learning (Dewi, 2021). In contrast, the 75% face-to-face ratio ensures that students have more time to engage in interactions and discussions in the classroom, which helps to improve reading ability and language expression (Dewi, 2021). Therefore, the blended learning ratio of 75% face-to-face + 25% online in this study not only successfully combines the structured benefits of classroom instruction with the flexibility of online resources, but also personalizes the learning path and extends the learning experience through the support of digital tools. This design meets students' needs for foundational reading abilities while deepening learning comprehension through self-directed exploration, consistent with findings in the existing literature (Dziuban et al., 2004).

Experts involved in the iterative design process provided valuable insights to guide the improvement of blended learning activities. Their feedback emphasized the model's ability to improve students' Chinese reading ability by combining structured face-to-face instruction with engaging and interactive online resources. Specifically, experts argued that these activities address key challenges in traditional learning methods, such as limited interactivity and passive knowledge transfer, by integrating

multimedia elements and collaborative tasks (Dziuban et al., 2004; Marmah, 2014). In addition, differentiated instructional design allows for content to be tailored to students with varying reading abilities, ensuring that all learners progress at their own pace. This approach is consistent with Tomlinson (2014) principles of differentiated instruction, which emphasize accommodating different learning styles and abilities. Experts concluded that such blended learning activities not only enhanced students' engagement but also significantly improved their comprehension and retention of Chinese reading materials, as evidenced by similar findings in the literature (Chung et al., 2019).

5.2.2 Discussion of the Effective of Blended Learning Activities

This section discusses the effectiveness of blended learning activities in enhancing the Chinese reading ability of seventh-grade students, and delves into the differences between the two modes of instruction by analyzing and comparing the performance of the experimental group using blended learning activities with that of the control group using traditional learning methods (TLM). The results of the study show that students in the experimental group made significant progress, which is consistent with the results of previous studies and emphasizes the benefits of blended learning in Chinese reading education.

Traditional learning methods are usually based on face-to-face teaching, which is teacher-centered and the pace of the classroom is controlled by the teacher. Although this approach can provide structured instructional support, the lack of interactivity and flexibility may cause students to feel boring and passive in the learning process, thus reducing the learning effect (Marmah, 2014). Especially in reading teaching, a single lecture is difficult to meet the diverse learning needs of students. Blended learning activities, on the other hand, effectively make up for the shortcomings of traditional learning methods by combining face-to-face instruction with online learning. Macaruso et al. (2020) investigated the use of blended learning in supporting reading instruction in elementary schools and found that this model can combine direct instruction and digital tools to provide students with opportunities for personalized learning. Students can practice at their own pace and receive instant, personalized feedback, leading to improved learning and reading ability.

In addition, Yang (2012) investigated the benefits of blended learning for college students suffering from English dyslexia, and the results showed that blended

learning not only significantly improved students' reading performance, but also enhanced their engagement in learning compared to traditional learning methods. This study combined face-to-face instruction with interactive online resources to tailor learning content to students through an adaptive learning platform, enabling them to overcome their individual reading disabilities. This suggests that blended learning provides an effective platform for developing reading strategies, enhancing comprehension, and fostering positive attitudes toward reading.

Similar to the above studies, the blended learning activities in this study used a combination of face-to-face instruction and a digital platform to promote the Chinese reading ability of seventh-grade students. The results of this study showed that students in the experimental group performed statistically significantly better than the control group in Chinese reading ability. This difference not only proves the effectiveness of blended learning, but also indicates that compared with traditional learning methods, blended learning can improve students' engagement and learning effects through flexible teaching resources and methods. Especially for Chinese reading, a learning content that requires deep comprehension, the diverse resources and interactive design of blended learning provide more comprehensive support for students. This finding is consistent with previous studies (Leila Rahimzadeh & Gilakjani, 2022; Xueshan, 2023; Yudhana, 2021) further validating the potential of blended learning activities in Chinese reading education.

5.2.3 Discussion the Student Satisfaction with Blended Learning Activities

Student satisfaction is a key indicator of the success of blended learning activities. Prior research has consistently demonstrated that well-designed blended learning environments offer flexibility, interactivity, and the ability to meet individual learning needs, and therefore increase student satisfaction. For example, Kuo, Walker, et al. (2014) identified three key predictors of student satisfaction with blended learning: interaction with content, instructor, and peers. Their findings indicated that meaningful and engaging interactions significantly increased student satisfaction. Similarly, a study by Owston et al. (2013) found that students were more satisfied with blended courses compared to traditional face-to-face instruction, which was attributed to a combination of online and face-to-face interactions that catered to different learning preferences.

First of all, one of the main factors affecting student satisfaction is perceived

learning, which refers to students' recognition of improved knowledge and skills acquired through the learning process. In this study, students expressed a high level of satisfaction with their ability to improve their Chinese reading ability through blended learning activities. The combination of traditional teaching methods and online resources allowed students to relearn challenging material at their own pace and practice through interactive tasks, thus developing a sense of mastery and accomplishment. This is consistent with the findings of previous studies (Kintu et al., 2017; Li et al., 2016; Rajabalee & Santally, 2021). They emphasized that the combination of learning objectives and engaging, personalized activities significantly improved perceptual learning in blended learning activities.

Second, another key factor contributing to satisfaction was the Complementarity of the blended learning activities, in which the strengths of face-to-face instruction and online learning effectively supported and enhanced each other. In this study, the face-to-face instruction provided structured instruction and in-depth exploration of foundational reading abilities, while the online component provided multimedia resources, collaboration tools, and immediate feedback. This balanced combination addressed different learning preferences and created a more holistic and inclusive learning environment. Students are more satisfied with blended learning activities due to the Complementarity of online and face-to-face interactions, which cater to their different needs and preferences. This Complementarity not only makes learning more engaging, but also ensures that students have access to resources and support tailored to their specific challenges in Chinese reading ability (Diep et al., 2017; Nanclares & Rodríguez, 2016).

Perceived flexibility and interactivity also play an important role in shaping student satisfaction. The inherent flexibility of the blended learning activities enabled students to balance academic tasks with other commitments, reducing stress and increasing overall satisfaction. In addition, the interactivity of the blended learning activities in this study fostered collaboration among peers as well as meaningful interactions with the instructor through the Ding Talk platform. These characteristics are consistent with previous arguments that emphasize that the adaptability of blended learning environments in meeting individual needs and facilitating interaction significantly increases student satisfaction (Best & Conceição, 2017; Kuo et al., 2013).

The ability to access course materials and engage in collaborative exercises at any time not only supports personalized learning paths, but also creates a sense of community and motivation that contributes to students' positive experiences with blended learning approaches.

5.3 Recommendations

5.3.1 Recommendations for the Research

1. Personalized Learning Opportunities

Unlike traditional learning methods, which are typically taught to an entire class, blended learning allows for personalized learning paths. Online tools can adapt to an individual's reading level and provide tailored practice, allowing each student to progress at their own pace while addressing specific weaknesses in reading ability.

2. Enhancing Engagement and Learning Motivation Through Technology and Interactive Elements

Blended learning incorporates multimedia resources such as videos and digital materials to make the learning process more engaging, a model that significantly enhances student engagement compared to passive, lecture-based traditional learning methods in traditional classrooms. These tools not only cater to students' interests, but also motivate them and ensure that they remain active and enthusiastic in the learning process. Especially in challenging subjects such as reading, blended learning is effective in improving students' reading ability and retention through interactive and technological elements.

3. More Flexibility in Learning

Blended learning offers flexibility beyond traditional learning methods by integrating online components with face-to-face instruction. While traditional learning methods are often limited by fixed schedules and physical spaces, blended learning breaks down these constraints and allows students to access courses and learning materials anytime, anywhere. Students can review challenging content, revisit lessons, and learn at a comfortable pace based on their learning needs. This flexibility not only accommodates different learning styles and personal situations, but also

effectively enhances students' comprehension and retention.

4. Increased Access to a Variety of Resources

Unlike traditional classrooms, where resources may be limited to textbooks and teacher notes, blended learning offers a variety of online resources such as e-books, videos, and interactive tools. These resources enhance students' understanding of the text and provide different perspectives, which is essential for developing reading ability.

5. Continuous assessment and feedback

Assessment in traditional learning methods is usually based on regular exams and written assignments, and feedback is often delayed, making it difficult for students to keep abreast of their progress and deficiencies in the learning process. Blended learning, on the other hand, realizes continuous assessment and instant feedback functions through an online platform. Students can submit assignments at any time, and teachers can track learning progress and provide personalized advice and guidance in real time. This real-time feedback mechanism helps students adjust their learning methods in a timely manner and improve their academic performance more efficiently, and also provides a basis for teachers to optimize their teaching design.

5.3.2 Recommendation for Further Research

1. Investigating Long-term Learning Outcomes

Conduct a longitudinal study to assess the ongoing impact of blended learning activities on student reading ability and satisfaction. This will provide insights into long-term benefits and potential areas for improvement.

2. Examining the Impact on Different Groups of Students

Research should focus on how blended learning activities affect students from different backgrounds, including those from rural areas, with special needs, or from different linguistic and cultural backgrounds. This can help to customize the approach for wider applicability.

3. Analyzing Teacher Challenges and Perceptions

Examine the challenges teachers face when implementing blended learning activities, such as managing time, technology, and blended student engagement. Understanding their perspectives can guide the development of targeted support systems.

4. Explore the Role of Emerging Technologies

The integration of augmented reality (AR), artificial intelligence (AI), and gamification in blended learning activities can be explored. For example, AR tools can make reading comprehension more interactive, while AI can provide adaptive learning experiences.

5. Investigating Parent and Peer Support

Understanding the role of parental involvement and peer collaboration in the success of blended learning activities can help in designing activities that utilize external support. For example, research could examine how parental supervision or peer group tasks affect reading outcomes.

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APPENDIX

APPENDIX A
Announcement of the Result of Thesis Proposal Examination

School of Industrial Education and Technology
King Mongkut's Institute of Technology Ladkrabang
Announcement of The Result of Thesis Proposal Examination

School of Industrial Education and Technology with the agreement of thesis proposal examination committees would like to announce the list of thesis title and thesis proposal of Master of Science in Technology-Enhanced Learning and Innovation (International Program) approved on October 17, 2024 as follow:

Miss Yirong Jiang, student ID 66036054 whose thesis title is "DESIGNING BLENDED LEARNING TO ENHANCE CHINESE READING ABILITY FOR SEVENTH-GRADE STUDENTS" under an advise of Assoc. Prof. Dr. Thanin Ratanaolarn, advisor.

The student should consult with the advisor to ensure the completion of the study and thesis would be on time following the regulation of King Mongkut's Institute of Technology Ladkrabang.

Announced on October 24, 2024

(Professor Dr.Pariyaporn Tungkunanan)
Dean of the School of Industrial Education and Technology
2024/10/24 Time 20:28:29 Non-PKI Server Sign-LN
Signature Code : OQA5A-DcARQ-BGADA-AMgBD

APPENDIX B
Journey to the West Lesson Plan

Period: 8 weeks

Target Students: Guan Shang Experimental School 7th Grade Students

Objectives:

a) Improve Chinese reading abilities

b) Mastering the main points of Journey to the West chapters 1-22

Week 1

Content:

1. Understanding the background of Journey to the West
2. Chapter 1
3. Chapter 2

Lesson objectives:

1. Students will be able to understand the author, background, and main characters of Journey to the West.
2. understand the main character: Sun Wukong and his origin.
3. Analyze the themes of cultivation and enlightenment

Teacher Activities	Student Activities
Publish chapter prep materials and guiding questions via the Ding Talk platform.	Read the e-text and watch the material on the Ding Talk platform. Prepare in advance what you are going to study.
Introduce the historical and cultural context of the novel through a multimedia video playback.	Understand the basics of the novel and the context in which it was written.
Explain the storyline of Chapter 1, emphasizing the birth of the Sun Wukong and his quest for enlightenment.	Read Chapters 1 and 2 of Journey to the West and take notes.
Design an interactive quiz session to test students' understanding of the storyline.	Participate in interactive classroom quizzes and actively express their understanding of the story.
Organise group discussions to explore the character traits of Sun Wukong and its symbolism	Share your thoughts on Sun Wukong's character traits in a group discussion.
Arranging post-class assignments, students are required to submit their understanding of the image of Sun Wukong on the Ding Talk platform.	Complete after-school assignments on the Ding Talk platform and submit them on time.

Week 2

Content:

1. Chapter 3
2. Chapter 4
3. Chapter 5

Lesson objectives:

1. Students will be able to understand Sun Wukong's actions and the reasons behind them in Chapters 3-5 of Journey to the West, including the conquest of the demons, his dissatisfaction with his position, and the events of his rebellion against the Heavenly Court.

2. Students can analyze the character traits of Sun Wukong and explore the reasons for his success, as well as discuss the themes of ambition and rebellion presented in the work.

3. Students learn to appreciate the depiction of supernatural elements in literature and to critically analyze Sun Wukong's actions in a moral and ethical sense.

4. Students increase their awareness of narrative structure and can analyze the development of key plot points, conflicts between characters, and their resolution.

Teacher Activities	Student Activities
Publish chapter prep materials and guiding questions via the Ding Talk platform.	Read the e-text and watch the material on the Ding Talk platform. Prepare in advance what you are going to study.
Detailed explanation of the main plot and character analyses of Chapter 3 in class.	Actively participate in class discussions and share your understanding of the plot and characters in Chapter 3
Organise groups of students to discuss the ethics and values issues in Chapter 4.	Explore the moral conflicts in Chapter 4 in small groups and prepare a group report.
Use the Ding Talk platform to display key scenarios from Chapter 5 to enhance students' visual understanding.	Carefully watch the Chapter 5 Key Scenarios video on the Ding Talk platform to record feelings and questions.
Post-reading comprehension and reflection questions related to the week's instruction on the Ding Talk platform.	Complete reading comprehension and reflection questions assigned by the teacher on the Ding Talk platform.
Communicate with parents via the Ding Talk platform to find out how students are reading at home.	Communicate with parents about the week's learning and share learning experiences and difficulties encountered.

Week 3

Content:

1. Chapter 6
2. Chapter 7
3. Chapter 8

Lesson objectives:

1. Students will be able to understand the dialogue between the Goddess of Mercy and the Sun Wukong, the subjugation of the Sun Wukong and his suppression under the Five Elements Mountain in Chapters 6 to 8 of Journey to the West, and to explore the themes and deeper meanings reflected in these episodes.

2. Character traits and supernatural elements are analyzed: students can analyze the resilience and wisdom of Sun Wukong while appreciating and analyzing the vivid depiction of supernatural forces in the story.

3. Students can explore the embodiment of Buddhist thought in Journey to the West and the moral and ethical implications of Sun Wukong's behavior.

4. Students can analyze the narrative structure and understand the tasks and missions of the characters and how these elements drive the storyline and resolve the conflict.

Teacher Activities	Student Activities
Publish chapter prep materials and guiding questions via the Ding Talk platform.	Read the e-text and watch the material on the Ding Talk platform. Prepare in advance what you are going to study.
Explain in detail the deeper meanings behind the major plot points and character behaviors in Chapter 6.	Actively participate in class discussions and share your understanding of the Chapter 6 episode.
Ask questions in class that lead students to think about the ethical and philosophical issues in Chapter 7.	Work with group members to prepare an ethical discussion report for Chapter 7.
Use digital media to show key scenarios from Chapter 8 to enhance student understanding.	Watch the Chapter 8 Key Scenes video on the Ding Talk platform and record your feelings.
Organise themed discussions on the Ding Talk platform to facilitate communication among students.	Participate in threaded discussions on the Ding Talk platform and give your insights.
Post assignments through the Ding Talk platform, collect student feedback, and personalize instructions.	Carefully complete assignments set by the instructor, submit them promptly, and receive feedback.

Week 4

Content:

1. Chapter 9
2. Chapter 10
3. Chapter 11

Lesson objectives:

1. Students can understand the key episodes in the Appendix to Chapter 11 of Journey to the West, including the story of Chen Guangrui's encounter, Yuan Shoucheng's prediction, the Second General's suppression of ghosts, and the King of Tang's treatment of the orphaned souls, and to analyze the characters' motivations and behaviors.

2. Students can explore karma, moral responsibility, and Buddhist ideas in the story and understand how these concepts affect the fate of the characters and the storyline.

3. Students can analyze the depiction of the world of ghosts and spirits and its cultural significance and appreciate how supernatural elements enrich the story and deepen the thematic expression.

4. Students will be able to grasp narrative structure and analyze key turning points in a story and how they serve to deepen themes and advance the plot.

Teacher Activities	Student Activities
Publish chapter prep materials and guiding questions via the Ding Talk platform.	Read the e-text and watch the material on the Ding Talk platform. Prepare in advance what you are going to study.
Explain in detail the background of Chen Guangrui's story and characterization in class.	Students actively participate in class discussions and ask questions.
Use multimedia to show the storyline of Yuan Shoucheng and the Old Dragon King.	Students watch a multimedia presentation and work through the plot.
Organise groups of students to discuss the plot development of Tang Taizong's return from hell.	Students discuss in groups and produce group reports.
Use the Ding Talk platform to assign homework and ask students to write about their reading.	Students submit their readings and evaluate each other on the Ding Talk platform.

Week 5

Content:

1. Chapter 12
2. Chapter 13
3. Chapter 14

Lesson objectives:

1. Students will be able to understand key episodes such as Xuanzang's building of the Assembly, Guanyin's manifestation of the Golden Cicada and their deeper meanings, and analyze the characters and motivations in the episodes of the Tiger's Cave, Venus' Relief, and the Twin Forks Ridge, where Bakin stayed with his monks.

2. Students will be able to explore the transformation of Sun Wukong's mind from an ape in his heart to six thieves without a trace, and the impact of these transformations on his personal growth and change.

3. Students will be able to explore the religious and social influences on Xuanzang's building of the Assembly and how these factors interrelate with the story's themes and character development.

4. Students can analyze the significance of symbolic elements such as the manifestation of Guanyin as the Golden Cicada and discuss the themes of morality and karma embodied in the work.

Teacher Activities	Student Activities
Publish chapter prep materials and guiding questions via the Ding Talk platform.	Read the e-text and watch the material on the Ding Talk platform. Prepare in advance what you are going to study.
The class explains the storyline of Xuanzang's building of the Assembly and the manifestation of the Goddess of Mercy.	Students listen in class actively participate in discussions and offer their insights.
Use multimedia to show plot developments in Tiger Trap and Twin Forks Ridge.	Students watch a multimedia presentation and record important plot points and character traits.
Organise groups of students to discuss the process of returning a mind ape to its rightful place and its significance.	Students discuss in groups and create a mind map to summarise the episode of the return of the apes to their rightful place and its morals.
Assign homework through the Ding Talk platform and ask students to write book reports.	Students submit book reports on the Ding Talk platform and evaluate their classmates' reports.

Week 6

Content:

1. Chapter 15
2. Chapter 16
3. Chapter 17

Lesson objectives:

1. Students can understand the episodes of Snake Mountain and the Eagle's Nest and analyze the symbolism in these episodes as well as the underlying themes they carry in the story.

2. Students will be able to explore the plots of the Monk of the Guanyin Temple who seeks a treasure and the Monster of the Black Wind Mountain who steals a robe, and analyze the motives and behavior of the characters, as well as discuss moral issues such as greed and conspiracy.

3. Students can analyze the episodes of Sun Xing Shi's havoc on Black Wind Mountain and Guan Shi Yin's subduing of the bear warriors, to understand the mythological background of the gods' blessings and the intention of reining in the horse, and to analyze the images and traits of the main characters.

4. Students will be able to analyze the courageous acts of Sun Xing Shi and the wise way of handling by Guan Shi Yin to develop an understanding and recognition of the values of justice, courage, and wisdom.

Teacher Activities	Student Activities
Publish chapter prep materials and guiding questions via the Ding Talk platform.	Read the e-text and watch the material on the Ding Talk platform. Prepare in advance what you are going to study.
The class explains the storyline of Snake Plate Mountain and Eagle's Nest.	Students listen in class actively participate in discussions and offer their insights.
Use multimedia to show the plot development of Kwun Yum Court and Black Wind Mountain.	Students watch a multimedia presentation and record important plot points and character traits.
Organise groups of students to discuss the process of Sun Walker's great fight against the Black Wind Mountain and its significance.	Students discuss in groups and create a mind map to summarise the plot of Sun Walker's great fight on Black Wind Mountain and its morals.
Arrange a role-play activity, choosing students to take on the main roles and recreating the storyline of Blackwind Hill.	Students work in groups to role-play the main characters and demonstrate their understanding of the characters and plot.
Assign homework through the Ding Talk platform and ask students to write book reports.	Students submit book reports on the Ding Talk platform and evaluate their classmates' reports.

Week 7

Content:

1. Chapter 18
2. Chapter 19
3. Chapter 20

Lesson objectives:

1. Students will be able to understand the encounters of the Longevity Monk at the Guanyin Temple and the Gaolaozhuang and analyze the symbolism in these episodes and their contribution to the characterization and themes of the story.

2. Students will explore the processes by which Sun Wukong subdues the Eight Precepts and Xuanzang receives the Heart Sutra, and analyze the interactions and relationships between the characters and the contribution of these processes to the moral and spiritual growth of the characters.

3. Students will analyze the episodes in which the Longevity Monk is in distress at Huangfengling and the Eight Precepts fight to be first, exploring the Longevity Monk's performance in his predicament and the character traits of the Eight Precepts, as well as how these character traits influence their choices and behaviors.

4. Students will understand and analyze the storylines of the Great Sage in Gao Lao Zhuang who removes the demons, the Wukong in Cloud Stack Cave who collects the Eight Precepts, and Xuanzang in Mount Faodu who receives the Heart Sutra, exploring the significance and impact of these stories in their cultural and religious contexts.

Teacher Activities	Student Activities
Publish chapter prep materials and guiding questions via the Ding Talk platform.	Read the e-text and watch the material on the Ding Talk platform. Prepare in advance what you are going to study.
The class explains the episodes in which the Tang Monk of Guanyin Yard gets out of trouble and the Great Sage of Gaolaozhuang gets rid of the devil.	Students listen in class actively participate in discussions and offer their insights.
Use multimedia to show the development of the plot in Cloudstack Cave where Wukong collects the Eight Preceptors.	Students watch a multimedia presentation and record important plot points and character traits.
Organize students to work in small groups to re-enact the episode of The Monk in Trouble at Huangfengling. And make a presentation as a group.	Students work in groups to prepare and carry out an activity to report on a presentation recreating the story of the Monk in trouble at Huangfengling.
Design a role-play activity in which students are chosen to play the main roles and recreate the storyline of the Great Sage of Gaolaozhuang who removes the demons.	Students work in groups to role-play the main characters and demonstrate their understanding of the characters and plot.
Assign homework through the Ding Talk platform and ask students to write book reports.	Students submit book reports on the Ding Talk platform and evaluate their classmates' reports.

Week 8

Content:

1. Chapter 18
2. Chapter 19
3. Summaries the 1-22 chapters
4. Test

Lesson objectives:

1. Students will be able to understand the strategy of the Protector in setting up the bank and the wisdom of Sun Wukong in coping with it and analyze the process of the battle of wits and its significance in the story.

2. Students will analyze the episodes of the battle between the Eight Preceptors and Wujing, exploring the characterization and symbolism in these episodes and their impact on the development of the story.

3. Students will summarize and review the main points and character relationships in the first 22 chapters of Journey to the West, consolidate their understanding and memory of the storyline and characters through class quizzes, and enhance their Chinese reading ability.

4. Students will explore the processes of Sumeru Lingji's determination of the wind demon and Wooden Fork's acceptance of Wujing by the Law, analyze the symbolism and characterization of these episodes, and deepen their understanding of the deeper themes of the work.

Teacher Activities	Student Activities
Publish chapter prep materials and guiding questions via the Ding Talk platform.	Read the e-text and watch the material on the Ding Talk platform. Prepare in advance what you are going to study.
The class explains the episodes in which the Protector of the Law sets up the Shojo to keep the Great Sage and the Sumeru Lingji to determine the wind and the devil.	Students listen in class actively participate in discussions and offer their insights.
Use multimedia to show the plot of the Eight Precepts' battle with the Quicksand River and the Wooden Fork's collection of Wujing by the Law.	Students watch multimedia presentations and record important plot points and character traits.
Organize group discussions with students to summarize the main plot and character development of the first 22 chapters.	Students discuss in groups and create a mind map to summarize the plot and character development of the first 22 chapters.
Assign homework via Ding Talk and ask students to write a book report for the week.	Students submit book reports on the Ding Talk platform and evaluate their classmates' reports.
Design the final classroom quiz topic. Find a class period dedicated to testing students on the test.	Students complete a final classroom test.

APPENDIX C
Teaching Quality Evaluation Form

Quality Element	Qualifiers			
	Strongly Agree	Agree	Disagree	Strongly Disagree
	3	2	1	0
1. Navigation / Orientation				
a) There are instructions on how to navigate the course site.				
b) There are instructions on how learners should engage with a blended learning course and what proportions of the course are online and face-to-face.				
c) Where feasible, materials open in the course site rather than as pop-up windows, etc. (i.e., separate Word docs).				
d) A specific button at the top of a specific page makes it easy to navigate the course website.				
e) There is sufficient indication of where materials are to be used online and in face-to-face settings.				
f) There is a help option to support learners with FAQs, etc.				

Quality Element	Qualifiers			
	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
	3	**2**	**1**	**0**
2. Content				
a) Learning outcomes are clearly defined against academic / workplace standards				
b) Levels of learning outcomes are aligned with our school's instructional goals.				
c) The descriptive text and media promote a good understanding of the subject matter.				
d) The content promotes interaction amongst students and with the instructor.				
e) Comply with school policies for hours of study.				
f) The course level is identified (i.e., introductory or upper level, prerequisites required).				
g) The course content is accurate, up to-date.				
h) The content meets the institutional requirements.				

Quality Element	Qualifiers			
	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
	3	**2**	**1**	**0**
i) The references are reliable (i.e., proper information, active links), relevant, and up-to-date.				
j) The materials are properly cited and referenced and free of plagiarism.				
k) The materials have been copy edited for accuracy, typographic errors, format, style, content and workable links.				
3. Instructional Design				
a) Learners are exposed to a variety of learning activities.				
b) Learning activities / instructional materials are linked to learning outcomes.				
c) Instructional materials contribute to the achievement of the stated learning outcomes.				
d) Active learning strategies are used that engage the student and promote the achievement of the stated learning outcomes.				
e) Learning activities provide opportunities for interaction (student–student, student–instructor, and with materials / technology) that support active learning.				
f) Access to external programs / software is available (e.g., Ding Talk).				

Quality Element	Qualifiers			
	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
	3	**2**	**1**	**0**
g) Media is thoughtfully integrated into the course (i.e., short videos and a variety of interactive features).				
h) The LMS is learner-friendly (e.g., minimal clicks, minimal external links or documents to access, as is feasible).				
i) There are learning activities designed to engage students in critical thinking.				
4. Course Structure				
a) The presentation is logical (e.g., sequential, well-paced).				
b) The course structure is flexible, allowing for easy updating of content in units, activities, assignments and learning materials.				
c) The course structure includes links to library research databases, as well as accessible links on the Ding Talk platform.				
d) Where practicable, the course has been appropriately licensed as an Open Educational Resource (OER) for this school.				
e) The course meets institutional guidelines or is consistent relative to formatting/templates, etc.				

Quality Element	Qualifiers			
	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
	3	**2**	**1**	**0**
f) The course structure enables a good mix of learning resources and faculty support.				
5. Student Support				
a) The course has clearly defined instructions for learners to satisfy the course requirements (e.g., tasks, assignments) as well as the learning outcomes of the course.				
b) Teachers are adequately trained and qualified to facilitate the blended course.				
c) Students are provided with orientation to the online components of the course and registration facilities (Ding Talk platform).				
d) There are clear instructions on how and when students should expect feedback (e.g., within three days).				
6. Technology / Media				
a) The selection of technological tools (e.g., Ding Talk, mobile applications) has been carefully considered regarding infrastructure and learner access.				

Quality Element	Qualifiers			
	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
	3	**2**	**1**	**0**
b) The selected technologies support completion of activities that enhance the learning outcomes.				
c) The Ding Talk provides an option to download resources for offline consumption (e.g., as pdf files).				
d) The technology enables learners to communicate and collaborate.				
e) The course site is device / browser agnostic (i.e., operational on mobile devices, multiple browsers).				
7. Assessment				
a) Learners are provided with information on how they will be assessed in the course.				
b) Marking guides for papers and examinations are provided.				
c) Assessment measures include formative and summative assessments.				
d) Assessment tools can facilitate self-evaluation or feedback.				
e) Assessment tools measure mastery of learning outcomes.				

Quality Element	Qualifiers			
	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
	3	**2**	**1**	**0**
8. Quality Assurance and Evaluation				
a) The course has been / is being subjected to quality assurance processes and with the same rigor as a face-to-face course.				
b) Plans / schedules are in place for online courses to be reviewed to ensure that the provider keeps pace with changes in technology and content.				
c) Course evaluation is enabled for learners to provide feedback on the blended learning experience, including the course content.				

APPENDIX D
Journey to the West Test

西游记测试题 Journey to the West Test

姓名 (Name)：_____

班级 (Classes)：_____

1. 孙悟空出生于哪里？ Where was Sun Wukong born?

a) 五指山 Five Fingers Mountain

b) 花果山 Flower Fruit Mountain

c) 灵台方寸山 Lingtai Fangcun Mountain

d) 天宫 Heavenly Palace

2. 孙悟空是在哪条河流中找到的？ In which river was Sun Wukong found?

a) 黄河 Yellow River

b) 长江 Yangtze River

c) 流沙河 Flowing Sands River

d) 花果山水帘洞 Water Curtain Cave of Flower Fruit Mountain

3. 孙悟空第一个拜的师父是谁？ Who was Sun Wukong's first master?

a) 观音菩萨 Guanyin Bodhisattva

b) 菩提祖师 Patriarch Bodhi

c) 如来佛祖 Tathagata Buddha

d) 太上老君 Taishang Laojun

4. 孙悟空在哪个位置受封为弼马温？ What position was Sun Wukong first appointed to in Heaven?

a) 天庭 Keeper of the Heavenly Horses

b)地府 Underworld

c) 东海龙宫 Dragon Palace of the East Sea

d) 西天 Western Paradise

5. 孙悟空为了延长寿命，吃了什么？ What did Sun Wukong eat to prolong his life?

a) 仙丹 Immortal Pills

b) 桃子 Peaches

c) 人参果 Ginseng Fruit

d) 长生不老药 Elixir of Immortality

6. 孙悟空的兵器是什么？ What is Sun Wukong's weapon?

a) 金箍棒 Golden Cudgel

b) 定海神针 Needle of the Sea

c) 如意金箍棒 Ruyi Jingu Bang

d) 盘龙棍 Dragon Staff

7. 玄奘法师是在哪个朝代取经的？ During which dynasty did Xuanzang go on his pilgrimage for scriptures?

a) 唐朝 Tang Dynasty

b) 宋朝 Song Dynasty

c) 元朝 Yuan Dynasty

d) 明朝 Ming Dynasty

8. 玄奘法师的师父是谁？ Who is Xuanzang's master?

a) 如来佛祖 Tathagata Buddha

b) 菩提祖师 Patriarch Bodhi

c) 观音菩萨 Guanyin Bodhisattva

d) 唐太宗 Emperor Taizong of Tang

9. 孙悟空第一次救唐僧时，唐僧遇到的危险是什么？ What danger did Xuanzang

encounter the first time Sun Wukong rescued him?

a) 被妖怪抓住 Captured by a demon

b) 被水淹 Drowned

c) 迷路 Lost

d) 饥饿 Starvation

10. 猪八戒原本是天上的什么神仙？ What deity was Zhu Bajie originally?

a) 天蓬元帅 Marshal Tianpeng

b) 太白金星 Taibai Jinxing

c) 二郎神 Erlang Shen

d) 哪吒 Nezha

11. 孙悟空为什么要大闹天宫？ Why did Sun Wukong wreak havoc in Heaven?

a) 因为他想成为玉皇大帝 Because he wanted to become the Jade Emperor

b) 因为他不满意自己的职位 Because he was dissatisfied with his position

c) 因为他想偷仙丹 Because he wanted to steal the Immortal Pills

d) 因为他被赶出天庭 Because he was expelled from Heaven

12. 为什么孙悟空被称为齐天大圣？ Why is Sun Wukong called the Great Sage Equal to Heaven?

a) 因为他战胜了所有的神仙 Because he defeated all the gods

b) 因为他自封为齐天大圣 Because he gave himself the title

c) 因为玉皇大帝封他为齐天大圣 Because the Jade Emperor gave him the title

d) 因为如来佛祖封他为齐天大圣 Because Tathagata Buddha gave him the title

13. 孙悟空为什么会被压在五指山下？ Why was Sun Wukong trapped under Five Fingers Mountain?

a) 因为他偷吃仙丹 Because he ate the Immortal Pills

b) 因为他大闹天宫 Because he wreaked havoc in Heaven

c) 因为他打败了天兵 Because he defeated the heavenly soldiers

d) 因为他不听玉皇大帝的话 Because he disobeyed the Jade Emperor

14. 孙悟空是如何学会七十二变的？ How did Sun Wukong learn the 72 transformations?

a) 通过自己的修炼 Through his own cultivation

b) 通过偷师 By stealing the techniques

c) 通过师父菩提祖师的教授 Taught by his master Patriarch Bodhi

d) 通过观音菩萨的指导 Taught by Guanyin Bodhisattva

15. 唐僧为什么要去西天取经？ Why did Xuanzang go to the West to obtain scriptures?

a) 为了追求真理 To seek the truth

b) 为了拯救众生 To save all living beings

c) 为了满足个人愿望 To fulfill his personal desire

d) 为了获得财富 To gain wealth

16. 猪八戒为什么会被贬下凡间？ Why was Zhu Bajie banished to the mortal world?

a) 因为他偷吃仙丹 Because he ate the Immortal Pills

b) 因为他调戏嫦娥 Because he harassed Chang'e

c) 因为他不服玉皇大帝 Because he disobeyed the Jade Emperor

d) 因为他帮助妖怪 Because he helped demons

17. 为什么孙悟空不满意弼马温的职位？ Why was Sun Wukong dissatisfied with the position of Keeper of the Heavenly Horses?

a) 因为职位低微 Because the position was too low

b) 因为他不喜欢马 Because he didn't like horses

c) 因为他想要更多的权力 Because he wanted more power

d) 因为他觉得自己应该成为神仙 Because he felt he should become a god

18. 孙悟空大闹天宫时，天庭为什么没有立即惩罚他？ Why didn't Heaven immediately punish Sun Wukong when he wreaked havoc?

a) 因为他有强大的法力 Because he had great magical powers

b) 因为他是花果山的王 Because he was the king of Flower Fruit Mountain

c) 因为他被如来佛祖保护 Because he was protected by Tathagata Buddha

d) 因为玉皇大帝不在天庭 Because the Jade Emperor was not in Heaven

19. 为什么唐僧选择了孙悟空作为他的第一个徒弟？ Why did Xuanzang choose Sun Wukong as his first disciple?

a) 因为孙悟空有强大的法力 Because Sun Wukong had great magical powers

b) 因为孙悟空是观音菩萨推荐的 Because Sun Wukong was recommended by Guanyin Bodhisattva

c) 因为孙悟空是花果山的王 Because Sun Wukong was the king of Flower Fruit Mountain

d) 因为孙悟空对他很尊敬 Because Sun Wukong respected him

20. 为什么猪八戒和沙悟净愿意跟随唐僧取经？ Why did Zhu Bajie and Sha Wujing agree to follow Xuanzang on his pilgrimage?

a) 因为他们想要赎罪 Because they wanted to atone for their sins

b) 因为他们没有其他选择 Because they had no other choice

c) 因为他们被强迫 Because they were forced

d) 因为他们想要获得财富 Because they wanted to gain wealth

21. 你认为孙悟空大闹天宫的行为合理吗？为什么？ Do you think Sun Wukong's behavior in wreaking havoc in Heaven was justified? Why?

a) 合理，因为他追求自由 Justified, because he sought freedom

b) 合理，因为他被不公平对待 Justified, because he was treated unfairly

c) 不合理，因为他违反天规 Unjustified, because he broke the heavenly rules

d) 不合理，因为他太过冲动 Unjustified, because he was too impulsive

22. 你认为孙悟空的性格特点是什么？ What do you think are Sun Wukong's personality traits?

a) 勇敢而鲁莽 Brave and reckless

b) 谨慎而聪明 Cautious and smart

c) 懦弱而自私 Timid and selfish

d) 仁慈而宽容 Kind and generous

23. 你认为唐僧、孙悟空、猪八戒和沙悟净的团队合作是否成功？为什么？ Do you think the team cooperation between Xuanzang, Sun Wukong, Zhu Bajie, and Sha Wujing was successful? Why?

a) 成功，因为他们互相帮助，共同完成任务 Successful, because they helped each other and completed the mission

b) 成功，因为他们每个人都有独特的能力 Successful, because each of them had unique abilities

c) 不成功，因为他们经常吵架 Unsuccessful, because they often quarreled

d) 不成功，因为他们性格各异 Unsuccessful, because they had different personalities

24. 你认为取经之路对唐僧和他的徒弟们有什么意义？ What significance did the pilgrimage have for Xuanzang and his disciples?

a) 提升他们的法力 Improved their magical powers

b) 增强他们的信任和合作精神 Enhanced their trust and cooperation

c) 让他们获得更多财富 Gained more wealth

d) 让他们实现个人愿望 Fulfilled their personal desires

25. 你认为取经团队中的哪个人物最重要？为什么？ Which character do you think is the most important in the pilgrimage team? Why?

a) 唐僧，因为他是团队的领袖 Xuanzang, because he is the leader

b) 孙悟空，因为他最有战斗力 Sun Wukong, because he has the greatest combat power

c) 猪八戒，因为他提供了幽默和娱乐 Zhu Bajie, because he provides humor and entertainment

d) 沙悟净，因为他最忠诚 Sha Wujing, because he is the most loyal

26. 你认为唐僧的领导方式是否有效？为什么？ Do you think Xuanzang's leadership style was effective? Why?

a) 有效，因为他带领团队完成了取经任务 Effective, because he led the team to complete the pilgrimage

b) 有效，因为他能处理团队内部的冲突 Effective, because he could handle internal conflicts

c) 无效，因为他太过软弱 Ineffective, because he was too weak

d) 无效，因为他缺乏决断力 Ineffective, because he lacked decisiveness

27. 你认为取经团队的成功主要依赖于谁？ Who do you think the success of the pilgrimage team mainly depended on?

a) 唐僧 Xuanzang

b) 孙悟空 Sun Wukong

c) 猪八戒 Zhu Bajie

d) 沙悟净 Sha Wujing

28. 你认为孙悟空的性格在取经过程中发生了哪些变化？ How did Sun Wukong's personality change during the pilgrimage?

a) 变得更成熟和有责任感 Became more mature and responsible

b) 变得更冲动和暴躁 Became more impulsive and irritable

c) 变得更贪婪和自私 Became more greedy and selfish

d) 变得更懦弱和胆小 Became more timid and cowardly

29. 你认为猪八戒在取经团队中起到了什么作用？ What role did Zhu Bajie play in the pilgrimage team?

a) 主要负责打架 Mainly responsible for fighting

b) 提供幽默和娱乐 Provided humor and entertainment

c) 解决团队内部矛盾 Resolved internal conflicts

d) 提供后勤支持 Provided logistical support

30. 你认为沙悟净在团队中的角色如何？ What was Sha Wujing's role in the team?

a) 主要负责保护唐僧 Mainly responsible for protecting Xuanzang

b) 主要负责后勤支持 Mainly responsible for logistical support

c) 主要负责战斗 Mainly responsible for fighting

d) 主要负责调解团队冲突 Mainly responsible for mediating team conflicts

APPENDIX E
Student Satisfaction Questionnaire

QUESTIONNAIRE ON SATISFACTION WITH BLENDED LEARNING

混合式学习满意度调查问卷

1. 性别(Gender): □ 男（Male） □ 女（Female)
2. 班级（Classes) : _____

Questions	Level				
	Very Dissatisfied	Dissatisfied	Not Sure	Satisfied	Very Satisfied
	1	2	3	4	5
Perceived learning					
1. The blended learning methodology has allowed me to better understand the theoretical and practical concepts of the Chinese subject.					
2. The blended learning methodology has helped me to improve the planning of the learning process.					
3. The blended learning methodology has helped me to improve my performance in the Chinese subject.					
4. Using the Ding Talk platform can improve information retention through video playback.					
Complementarity					
5. The videos uploaded by the teacher have allowed me to complement the didactic material of the subject.					
6. The blended activity allows the acquisition of competencies that are not acquired with traditional learning methodologies.					

Questions	Level				
	Very Dissatisfied	Dissatisfied	Not Sure	Satisfied	Very Satisfied
	1	2	3	4	5
7. Content on the Ding Talk platform is more effective than printed learning content.					
Perceived flexibility / Interaction					
8. The blended learning methodology has allowed me to have more flexibility and self-regulation of learning.					
9. The blended learning methodology improves the flexibility of educational content since it allows its exchange and conservation.					
10. Content created through the Ding Talk platform can be reused and subject material improved.					
11. The blended learning methodology allows for promoting collaborative learning environments and generating user networks that share, interact, and collaborate.					

APPENDIX F
Teaching Quality Evaluation Form Results / Interpretation

Quality Element	Expert opinion					Mean	SD	Meaning
	1	2	3	4	5			
1. Navigation / Orientation								
a) There are instructions on how to navigate the course site.	3	2	2	2	3	2.40	0.55	Agree
b) There are instructions on how learners should engage with a blended learning course and what proportions of the course are online and face-to-face.	3	3	3	1	3	2.60	0.89	Strongly Agree
c) Where feasible, materials open in the course site rather than as pop-up windows, etc. (i.e., separate Word docs).	3	3	1	2	3	2.40	0.89	Agree
d) A specific button at the top of a specific page makes it easy to navigate the course website.	3	2	1	2	3	2.20	0.84	Agree
e) There is sufficient indication of where materials are to be used online and in face-to-face settings.	3	3	3	1	3	2.60	0.89	Strongly Agree
f) There is a help option to support learners with FAQs, etc.	3	3	3	1	3	2.60	0.89	Strongly Agree
Average						**2.47**	**0.83**	**Agree**

Quality Element	Expert opinion					Mean	SD	Meaning
	1	2	3	4	5			
2. Content								
a) Learning outcomes are clearly defined against academic / workplace standards	3	3	2	2	3	2.60	0.55	Strongly Agree
b) Levels of learning outcomes are aligned with our school's instructional goals.	3	2	2	2	3	2.40	0.55	Agree
c) The descriptive text and media promote a good understanding of the subject matter.	2	3	1	1	3	2.00	1.00	Agree
d) The content promotes interaction amongst students and with the instructor.	3	3	2	2	3	2.60	0.55	Strongly Agree
e) Comply with school policies for hours of study.	3	3	3	2	3	2.80	0.45	Strongly Agree
f) The course level is identified (i.e., introductory or upper level, prerequisites required).	3	2	2	1	3	2.20	0.84	Agree
g) The course content is accurate, up to-date.	3	3	2	2	3	2.60	0.55	Strongly Agree
h) The content meets the institutional requirements.	3	3	1	2	3	2.40	0.89	Agree
i) The references are reliable (i.e., proper information, active links), relevant, and up-to-date.	3	3	2	2	3	2.60	0.55	Strongly Agree

Quality Element	Expert opinion					Mean	SD	Meaning
	1	2	3	4	5			
j) The materials are properly cited and referenced and free of plagiarism.	3	3	3	2	3	2.80	0.45	Strongly Agree
k) The materials have been copy edited for accuracy, typographic errors, format, style, content and workable links.	3	2	2	2	3	2.40	0.55	Agree
Average						**2.49**	**0.63**	**Agree**
3. Instructional Design								
a) Learners are exposed to a variety of learning activities.	3	2	2	1	3	2.20	0.84	Agree
b) Learning activities / instructional materials are linked to learning outcomes.	3	2	1	2	3	2.20	0.84	Agree
c) Instructional materials contribute to the achievement of the stated learning outcomes.	3	2	2	2	3	2.40	0.55	Agree
d) Active learning strategies are used that engage the student and promote the achievement of the stated learning outcomes.	3	3	3	2	3	2.80	0.45	Strongly Agree
e) Learning activities provide opportunities for interaction (student–student, student–instructor, and with materials / technology) that support active learning.	3	3	3	2	3	2.80	0.45	Strongly Agree
f) Access to external programs / software is available (e.g., Ding Talk).	3	2	1	1	3	2.00	1.00	Agree

Quality Element	Expert opinion					Mean	SD	Meaning
	1	2	3	4	5			
g) Media is thoughtfully integrated into the course (i.e., short videos and a variety of interactive features).	3	3	3	2	3	2.80	0.45	Strongly Agree
h) The LMS is learner-friendly (e.g., minimal clicks, minimal external links or documents to access, as is feasible).	3	1	2	2	3	2.20	0.84	Agree
i) There are learning activities designed to engage students in critical thinking.	2	3	2	2	3	2.40	0.55	Agree
Average						**2.42**	**0.66**	**Agree**
4. Course Structure								
a) The presentation is logical (e.g., sequential, well-paced).	3	3	2	2	3	2.60	0.55	Strongly Agree
b) The course structure is flexible, allowing for easy updating of content in units, activities, assignments and learning materials.	3	2	2	2	3	2.40	0.55	Agree
c) The course structure includes links to library research databases, as well as accessible links on the Ding Talk platform.	3	3	1	1	3	2.20	1.10	Agree
d) Where practicable, the course has been appropriately licensed as an Open Educational Resource (OER) for this school.	3	3	1	2	3	2.40	0.89	Agree

Quality Element	Expert opinion					Mean	SD	Meaning
	1	2	3	4	5			
e) The course meets institutional guidelines or is consistent relative to formatting/templates, etc.	3	2	1	2	3	2.20	0.84	Agree
f) The course structure enables a good mix of learning resources and faculty support.	2	3	2	2	3	2.40	0.55	Agree
Average						**2.37**	**0.75**	**Agree**
5. Student Support								
a) The course has clearly defined instructions for learners to satisfy the course requirements (e.g., tasks, assignments) as well as the learning outcomes of the course.	3	3	2	3	3	2.80	0.45	Strongly Agree
b) Teachers are adequately trained and qualified to facilitate the blended course.	3	3	2	2	3	2.60	0.55	Strongly Agree
c) Students are provided with orientation to the online components of the course and registration facilities (Ding Talk platform).	3	2	2	2	3	2.40	0.55	Agree
d) There are clear instructions on how and when students should expect feedback (e.g., within three days).	3	3	2	3	3	2.80	0.45	Strongly Agree
Average						**2.65**	**0.50**	**Strongly Agree**

Quality Element	Expert opinion					Mean	SD	Meaning
	1	2	3	4	5			
6. Technology / Media								
a) The selection of technological tools (e.g., Ding Talk, mobile applications) has been carefully considered regarding infrastructure and learner access.	3	3	1	1	3	2.20	1.10	Agree
b) The selected technologies support completion of activities that enhance the learning outcomes.	3	3	2	2	3	2.60	0.55	Strongly Agree
c) The Ding Talk provides an option to download resources for offline consumption (e.g., as pdf files).	3	2	1	2	3	2.20	0.84	Agree
d) The technology enables learners to communicate and collaborate.	3	3	2	2	3	2.60	0.55	Strongly Agree
e) The course site is device / browser agnostic (i.e., operational on mobile devices, multiple browsers).	3	3	3	2	3	2.80	0.45	Strongly Agree
Average						**2.48**	**0.70**	**Agree**

Quality Element	Expert opinion					Mean	SD	Meaning
	1	2	3	4	5			
7. Assessment								
a) Learners are provided with information on how they will be assessed in the course.	2	1	2	3	2	2.00	0.71	Agree
b) Marking guides for papers and examinations are provided.	2	2	2	3	2	2.20	0.45	Agree
c) Assessment measures include formative and summative assessments.	2	2	3	2	2	2.20	0.45	Agree
d) Assessment tools can facilitate self-evaluation or feedback.	2	2	4	2	1	2.20	1.10	Agree
e) Assessment tools measure mastery of learning outcomes.	1	2	2	3	1	1.80	0.84	Agree
Average						**2.08**	**0.71**	**Agree**
8. Quality Assurance and Evaluation								
a) The course has been / is being subjected to quality assurance processes and with the same rigor as a face-to-face course.	3	3	2	2	3	2.60	0.55	Strongly Agree

Quality Element	Expert opinion					Mean	SD	Meaning
	1	2	3	4	5			
b) Plans / schedules are in place for online courses to be reviewed to ensure that the provider keeps pace with changes in technology and content.	3	3	2	1	3	2.40	0.89	Agree
c) Course evaluation is enabled for learners to provide feedback on the blended learning experience, including the course content.	3	3	2	2	3	2.60	0.55	Strongly Agree
Average						**2.53**	**0.66**	**Strongly Agree**
Overall (49)						**2.43**	**0.68**	**Agree**

APPENDIX G
IOC From of Teaching Activities Evaluation Form

Quality Element	Expert opinion					Total	IOC
	1	2	3	4	5		
1. Navigation / Orientation							
a) There are instructions on how to navigate the course site.	1	1	1	-1	1	3	**0.6**
b) There are instructions on how learners should engage with a blended learning course and what proportions of the course are online and face-to-face.	0	1	1	0	1	3	**0.6**
c) Where feasible, materials open in the course site rather than as pop-up windows, etc. (i.e., separate Word docs).	1	1	0	1	1	4	**0.8**
d) A specific button at the top of a specific page makes it easy to navigate the course website.	1	-1	1	1	1	3	**0.6**
e) There is sufficient indication of where materials are to be used online and in face-to-face settings.	0	0	1	1	1	3	**0.6**
f) There is a help option to support learners with FAQs, etc.	1	1	1	0	0	3	**0.6**
2. Content							
a) Learning outcomes are clearly defined against academic / workplace standards	1	0	1	1	0	3	**0.6**
b) Levels of learning outcomes are aligned with our school's instructional goals.	1	1	0	0	1	3	**0.6**
c) The descriptive text and media promote a good understanding of the subject matter.	0	1	1	1	1	4	**0.8**
d) The content promotes interaction amongst students and with the instructor.	1	1	-1	1	1	3	**0.6**
e) Comply with school policies for hours of study.	1	0	1	1	0	3	**0.6**

Quality Element	Expert opinion					Total	IOC
	1	2	3	4	5		
f) The course level is identified (i.e., introductory or upper level, prerequisites required).	1	1	0	0	1	3	**0.6**
g) The course content is accurate, up to-date.	1	0	1	1	1	4	**0.8**
h) The content meets the institutional requirements.	0	1	1	0	1	3	**0.6**
i) The references are reliable (i.e., proper information, active links), relevant, and up-to-date.	1	-1	1	1	1	3	**0.6**
j) The materials are properly cited and referenced and free of plagiarism.	1	1	1	0	1	4	**0.8**
k) The materials have been copy edited for accuracy, typographic errors, format, style, content and workable links.	0	1	1	0	1	3	**0.6**
3. Instructional Design							
a) Learners are exposed to a variety of learning activities.	0	1	1	1	0	3	**0.6**
b) Learning activities / instructional materials are linked to learning outcomes.	0	1	1	1	1	4	**0.8**
c) Instructional materials contribute to the achievement of the stated learning outcomes.	1	1	1	-1	1	3	**0.6**
d) Active learning strategies are used that engage the student and promote the achievement of the stated learning outcomes.	0	1	1	1	0	3	**0.6**
e) Learning activities provide opportunities for interaction (student–student, student–instructor, and with materials / technology) that support active learning.	1	0	1	1	1	4	**0.8**
f) Access to external programs / software is available (e.g., Ding Talk).	0	1	0	1	1	3	**0.6**
g) Media is thoughtfully integrated into the course (i.e., short videos and a variety of interactive features).	1	1	1	1	-1	3	**0.6**

Quality Element	Expert opinion					Total	IOC
	1	2	3	4	5		
h) The LMS is learner-friendly (e.g., minimal clicks, minimal external links or documents to access, as is feasible).	1	0	1	0	1	3	**0.6**
i) There are learning activities designed to engage students in critical thinking.	-1	1	1	1	1	3	**0.6**
4. Course Structure							
a) The presentation is logical (e.g., sequential, well-paced).	1	1	0	1	1	4	**0.8**
b) The course structure is flexible, allowing for easy updating of content in units, activities, assignments and learning materials.	1	1	1	1	1	5	**1**
c) The course structure includes links to library research databases, as well as accessible links on the Ding Talk platform.	1	0	1	0	1	3	**0.6**
d) Where practicable, the course has been appropriately licensed as an Open Educational Resource (OER) for this school.	1	1	-1	1	1	3	**0.6**
e) The course meets institutional guidelines or is consistent relative to formatting/templates, etc.	1	1	1	0	1	4	**0.8**
f) The course structure enables a good mix of learning resources and faculty support.	0	1	1	0	1	3	**0.6**
5. Student Support							
a) The course has clearly defined instructions for learners to satisfy the course requirements (e.g., tasks, assignments) as well as the learning outcomes of the course.	1	1	1	1	1	5	**1**
b) Teachers are adequately trained and qualified to facilitate the blended course.	1	0	0	1	1	3	**0.6**
c) Students are provided with orientation to the online components of the course and registration facilities (Ding Talk platform).	1	-1	1	1	1	3	**0.6**
d) There are clear instructions on how and when students should expect feedback (e.g., within three days).	1	1	1	1	1	5	**1**
6. Technology / Media							

Quality Element	Expert opinion					Total	IOC
	1	2	3	4	5		
a) The selection of technological tools (e.g., Ding Talk, mobile applications) has been carefully considered regarding infrastructure and learner access.	-1	1	1	1	1	3	**0.6**
b) The selected technologies support completion of activities that enhance the learning outcomes.	1	-1	1	1	1	3	**0.6**
c) The Ding Talk provides an option to download resources for offline consumption (e.g., as pdf files).	0	1	0	1	1	3	**0.6**
d) The technology enables learners to communicate and collaborate.	1	0	1	1	1	4	**0.8**
e) The course site is device / browser agnostic (i.e., operational on mobile devices, multiple browsers).	-1	1	1	1	1	3	**0.6**
7. Assessment							
a) Learners are provided with information on how they will be assessed in the course.	1	1	-1	1	1	3	**0.6**
b) Marking guides for papers and examinations are provided.	1	1	1	1	-1	3	**0.6**
c) Assessment measures include formative and summative assessments.	-1	1	1	1	1	3	**0.6**
d) Assessment tools can facilitate self-evaluation or feedback.	1	1	1	1	1	5	**1**
e) Assessment tools measure mastery of learning outcomes.	-1	1	1	1	1	3	**0.6**
8. Quality Assurance and Evaluation							
a) The course has been / is being subjected to quality assurance processes and with the same rigor as a face-to-face course.	1	0	1	1	1	4	**0.8**
b) Plans / schedules are in place for online courses to be reviewed to ensure that the provider keeps pace with changes in technology and content.	0	1	1	1	0	3	**0.6**
c) Course evaluation is enabled for learners to provide feedback on the blended learning experience, including the course content.	1	1	1	1	1	5	**1**

APPENDIX H
IOC From of Journey to the West Tests

Question	Expert opinion					Total	IOC
	1	2	3	4	5		
1. Where was Sun Wukong born?	1	-1	1	1	1	3	**0.6**
2. In which river was Sun Wukong found?	0	1	0	1	1	3	**0.6**
3. Who was Sun Wukong's first master?	1	0	1	1	1	4	**0.8**
4. What position was Sun Wukong first appointed to in Heaven?	-1	1	1	1	1	3	**0.6**
5. What did Sun Wukong eat to prolong his life?	1	1	-1	1	1	3	**0.6**
6. What is Sun Wukong's weapon?	1	1	1	1	-1	3	**0.6**
7. During which dynasty did Xuanzang go on his pilgrimage for scriptures?	-1	1	1	1	1	3	**0.6**
8. Who is Xuanzang's master?	1	1	1	1	1	5	**1**
9. What danger did Xuanzang encounter the first time Sun Wukong rescued him?	-1	1	1	1	1	3	**0.6**
10. What deity was Zhu Bajie originally?	1	0	1	1	1	4	**0.8**
11. Why did Sun Wukong wreak havoc in Heaven?	0	1	1	1	0	3	**0.6**
12. Why is Sun Wukong called the Great Sage Equal to Heaven?	1	1	1	1	1	5	**1**
13. Why was Sun Wukong trapped under Five Fingers Mountain?	1	1	-1	1	1	3	**0.6**
14. How did Sun Wukong learn the 72 transformations?	1	0	1	1	1	4	**0.8**
15. Why did Xuanzang go to the West to obtain scriptures?	1	1	1	-1	1	3	**0.6**
16. Why was Zhu Bajie banished to the mortal world?	1	1	0	1	0	3	**0.6**
17. Why was Sun Wukong dissatisfied with the position of Keeper of the Heavenly Horses?	1	1	-1	1	1	3	**0.6**
18. Why didn't Heaven immediately punish Sun Wukong when he wreaked havoc?	1	1	1	1	1	5	**1**
19. Why did Xuanzang choose Sun Wukong as his first disciple?	1	-1	1	1	1	3	**0.6**
20. Why did Zhu Bajie and Sha Wujing agree to follow Xuanzang on his pilgrimage?	0	1	0	1	1	3	**0.6**

Question	Expert opinion					Total	IOC
	1	2	3	4	5		
21. Do you think Sun Wukong's behavior in wreaking havoc in Heaven was justified?	0	1	0	1	1	3	**0.6**
22. What do you think are Sun Wukong's personality traits?	1	1	1	1	-1	3	**0.6**
23. Do you think the team cooperation between Xuanzang, Sun Wukong, Zhu Bajie, and Sha Wujing was successful? Why?	1	0	1	1	1	4	**0.8**
24. What significance did the pilgrimage have for Xuanzang and his disciples?	1	1	-1	1	1	3	**0.6**
25. Which character do you think is the most important in the pilgrimage team? Why?	1	1	0	1	1	4	**0.8**
26. Do you think Xuanzang's leadership style was effective? Why?	-1	1	1	1	1	3	**0.6**
27. Who do you think the success of the pilgrimage team mainly depended on?	1	-1	1	1	1	3	**0.6**
28. How did Sun Wukong's personality change during the pilgrimage?	0	1	1	1	0	3	**0.6**
29. What role did Zhu Bajie play in the pilgrimage team?	0	1	0	1	1	3	**0.6**
30. What was Sha Wujing's role in the team?	1	1	1	0	1	4	**0.8**

APPENDIX I
IOC From of Student Satisfaction Questionnaires

Questions	Expert opinion					Total	IOC
	1	2	3	4	5		
Perceived learning							
1. The blended learning methodology has allowed me to better understand the theoretical and practical concepts of the Chinese subject.	0	1	0	1	1	3	**0.6**
2. The blended learning methodology has helped me to improve the planning of the learning process.	1	1	1	1	-1	3	**0.6**
3. The blended learning methodology has helped me to improve my performance in the Chinese subject.	1	0	1	0	1	3	**0.6**
4. Using the Ding Talk platform can improve information retention through video playback.	-1	1	1	1	1	3	**0.6**
Complementarity							
5. The videos uploaded by the teacher have allowed me to complement the didactic material of the subject.	1	1	0	1	1	4	**0.8**
6. The blended activity allows the acquisition of competencies that are not acquired with traditional learning methodologies.	1	1	1	1	1	5	**1**
7. Content on the Ding Talk platform is more effective than printed learning content.	1	0	1	0	1	3	**0.6**
Perceived flexibility / Interaction							
8. The blended learning methodology has allowed me to have more flexibility and self-regulation of learning.	1	1	-1	1	1	3	**0.6**
9. The blended learning methodology improves the flexibility of educational content since it allows its exchange and conservation.	1	1	1	0	1	4	**0.8**
10. Content created through the Ding Talk platform can be reused and subject material improved.	0	1	1	0	1	3	**0.6**
11. The blended learning methodology allows for promoting collaborative learning environments and generating user networks that share, interact, and collaborate.	1	1	1	1	1	5	**1**

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Award Received	The 20th International Conference on Developing Real-Life Learning Experiences: Learning Dynamic Toward Innovation and Technology for Future Sustainability-Best Paper