

INTEGRATION OF MIND MAPPING AND PROBLEM-BASED
LEARNING INSTRUCTIONAL MODEL TO ENHANCE ANCIENT
CHINESE READING SUMMARIZING ABILITY FOR
UNDERGRADUATE STUDENTS: A CASE STUDY
IN SOUTHWEST JIAOTONG UNIVERSITY

Zhang Jie

A thesis submitted in partial fulfillment of the requirements for
the Degree of Doctor of Philosophy Program in Curriculum and Instruction
Academic Year 2023

Copyright of Bansomdejchaopraya Rajabhat University

Thesis Title Integration of Mind Mapping and Problem Based Learning Instructional Model to enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiatong University

Author Mrs. Zhang Jie

Thesis Committee


..... Chairperson
(Assistant Professor Dr. Wapee Kong-in)


..... Committee
(Associate Professor Dr. Areewan Iamsa-ard)


..... Committee
(Associate Professor Dr. Suriya Phankosol)

Accepted by Bansomdejchaopraya Rajabhat Univeristy in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in Curriculum and Instruction


..... Dean of Graduate School
(Assistant Professor Dr. Kanakorn Sawangcharoen)


..... President
(Assistant Professor Dr. Linda Gainma)

Defense Committee


..... Chairperson
(Professor Dr. Kanit Kheovichai)


..... Committee
(Associate Professor Dr. Panjai Tantatsanawong)


..... Committee
(Associate Professor Dr. Pattawan Narjaikaew)

Title	Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students: A Case Study in Southwest Jiaotong University
Researcher	Zhang Jie
Program	Curriculum and Instruction
Major Advisor	Associate Professor Dr. Areewan Iamsa-ard
Co-advisor	Assistant Professor Dr. Wapee Kong-In
Co-advisor	Associate Professor Dr. Suriya Phankosol
Academic Year	2023

ABSTRACT

The objectives of this research were to 1) examine the factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan Province 2) develop mind mapping and problem-based learning instructional model for ancient Chinese reading summarizing ability of the undergraduate students in Southwest Jiaotong University, and 3) study the result of mind mapping and problem-based learning instructional model for ancient Chinese reading summarizing ability of the undergraduate students in Southwest Jiaotong University. The sample group were 21 students in Southwest Jiaotong University. The instruments were 1) a set of questionnaires for students, and interview for lecturers 2) a set of questionnaires for conformity instructional model, 3) lesson plans using mind mapping and problem-based learning instructional model, and 4) testing paper. Data were statistically analyzed by mean, standard deviation, t - test for one group sample and relative developmental scores.

The findings were revealed that:

1. The data obtained from questionnaire for students and interview for lecturers indicate either internal or external factors influencing ancient Chinese reading summarizing ability of undergraduates. One of the most influential internal factors is “Students are actively participating in class”, which only fully aligns with the advantages of mind mapping, but also fully aligns with the gestures of problem-based learning.

Another most influential internal factor “Students are willing to cooperate and interact with others” can tell the importance of students’ willing to cooperate and interact with others in enhancing their ancient Chinese reading summarizing ability. This factor not only fully aligns with the advantages of mind mapping, but also fully aligns with the gestures of PBL. One of the most influential external factors is “The proposal and resolution of problems can stimulate students’ learning, thinking and discussion”, which is perfectly fits the characteristics of PBL. And another most influential external factor is “Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students’ information processing”, which is perfectly fits the characteristics of mind mapping.

2. Confirming the mind mapping and problem-based learning instructional model in terms of accuracy, propriety, feasibility, and utility 100 %.

3. After implementing mind mapping and problem-based learning instructional model, students’ ancient Chinese reading summarizing ability is higher than before the experiment.

Keywords: Mind Mapping; Problem-Based Learning Instructional Model; Ancient Chinese Reading Summarizing Ability

Acknowledgement

As time pass by silently, my three years of studying for Ph. D. of Curriculum and Instruction at Bansomdejchaopraya Rajabhat University are coming to an end, and my heart is filled with emotions. Now, what I want to express most is gratitude.

Firstly, I would like to express my gratitude to Bansomdejchaopraya Rajabhat University for providing me with the opportunity to studying for Ph. D. here, which has enabled me to make my long-held dream come true. I am deeply honored and proud to be a doctoral student of Bansomdejchaopraya Rajabhat University.

Secondly, I would like to express my gratitude to the advisors for their guidance and assistance. What I am most grateful for is Associate Professor Dr. Areewan Iamsa-ard, my beautiful, elegant, lively, and lovely advisor. From the topic selection and structure of my doctoral thesis, to research tools, to teaching practice, to data analysis and result discussion, every step was completed under the patient and careful guidance of Dr. Areewan. She not only has strict requirements for me, but also gives me unlimited love and help. In addition, Assistant Professor Dr. Wapee Komg-In's exceptional academic ability and assistance have left a deep impression on me. And I am also deeply grateful and thanks for Associate Professor Dr. Suriya Phankosol, too.

Thirdly, I would like to thank my family for their selfless encouragement and support. I would like to thank my dear parents for their care and assistance in my daily life; I would also like to thank my darling husband for his support; And I would also like to thank my lovely son for his understanding and forgiveness for not being able to accompany him that much; In addition, I would also like to thank my sister and niece for their concern and encouragement. I will always love you all, my family!

Finally, I would like to thank my colleagues, friends and classmates for their help and support. Their every help, every smile, and every care make me feel very warm in my heart. I think I'm a lucky person!

Zhang Jie

Contents

	Page
Abstract.....	i
Acknowledgement.....	iii
Contents.....	iv
List of Figures.....	vi
List of Tables.....	viii
Chapter	
1 Introduction.....	1
Rationale.....	1
Research Question.....	4
Research Objective.....	4
Research Hypothesis.....	5
Scope of the Research.....	5
Advantages.....	6
Definition of Terms.....	6
Research Framework.....	10
2 Literature Review.....	12
Ancient Chinese Course in Southwest Jiaotong University.....	12
Theories of Instructional Model Development.....	17
Mind Mapping and Problem-Based Learning Instructional Model.....	23
Ancient Chinese Reading Summarizing Ability.....	33
Related Research.....	38
3 Research Methodology.....	47
Phase 1: conducted to answer research objective 1.....	47
Phase 2: conducted to answer research objective 2.....	52
Phase 3: conducted to answer research objective 3.....	55

Contents (Continued)

	Page
4 Results of Analysis	61
Part 1: Analysis results serving objective 1.....	61
Part 2: Analysis results serving objective 2.....	90
Part 3: Analysis results serving objective 3.....	93
5 Discussion Conclusion and Recommendations	112
Conclusion.....	112
Discussion.....	114
Recommendations.....	118
References	121
Appendixes	132
A List of Specialists and Letters of Specialists Invitation for IOC Verification.....	133
B Official Letter.....	136
C Research Instrument.....	151
D The Results of the Quality Analysis of Research Instruments.....	163
E Certificate of English.....	218
F The Document for Accept Research.....	220
Researcher Profile	222

List of Figures

Figure	Page
1.1 Research framework.....	11
3.1 Development of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students.....	60
4.1 Overall pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of total dimensions.....	94
4.2 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Dimension 1.....	96
4.3 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Dimension 2.....	97
4.4 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 2.....	99
4.5 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section of Dimension 2.....	100
4.6 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Dimension 3.....	102
4.7 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 1of Dimension 3.....	103
4.8 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section of Dimension 3.....	105
4.9 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Dimension 4.....	107

List of Figures (Continued)

Figure	Page
4.10 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section of Dimension 4.....	108
4.11 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section . of Dimension 4.....	110
4.12 Developed Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability After Implementation.....	111

List of Tables

Table	Page
2.1 The structure Ancient Chinese Course in Southwest Jiaotong University.....	13
2.2 Characteristics of Conventional Note-taking vs Those of Mind Mapping.....	24
2.3 Summarized and Compared Three Kinds of Mind Mapping Steps.....	26
2.4 Summarized and Compared Four Kinds of PBL Steps.....	30
2.5 Comparison the Steps of Mind Mapping, Problem-Based Learning, and MMPBL Instruction Model.....	32
2.6 Compared Aspects of Reading Abilities.....	37
3.1 Summary How to Conduct Research from Phase 1.....	51
3.2 Summary How to Conduct Research from Phase 2.....	54
3.3 Research Design.....	55
3.4 Criteria of Interpreting Learning Outcomes by Relative Developmental Scores.....	58
3.5 Summary How to Conduct Research from Phase 3.....	59
4.1 Common data of the respondent in Overview.....	62
4.2 The result of questionnaire from students in overview.....	63
4.3 Common data of the respondent in A. Sichuan University.....	67
4.4 The result of questionnaire from students in A. Sichuan University.....	67
4.5 Common data of the respondent in B. Southwest Minzu University.....	71
4.6 The result of questionnaire from students in B. Southwest Minzu University.....	72
4.7 Common data of the respondent in C. Southwest Jiaotong University.....	76
4.8 The result of questionnaire from students in C. Southwest Jiaotong University.....	76
4.9 Common data of the respondents in Sichuan Province.....	80
4.10 The result of questions from 6 lecturers from Sichuan University, Southwest Minzu University, and Southwest Jiaotong University.....	80
4.11 Summary of factors affecting ancient Chinese reading summarizing ability in Sichuan Province.....	87
4.12 Frequency and percentage of confirmability of utility, feasibility, propriety, and accuracy of the instructional model components in 5 areas by specialists.....	91

List of Tables (Continued)

Table	Page
4.13 Overall comparison between students' ancient Chinese reading summarizing ability of total 4 dimensions before and after learning through mind mapping and problem-based learning instructional model.....	93
4.14 Relative developmental score of individual students' ancient Chinese reading summarizing ability of total 4 dimensions.....	94
4.15 Comparison between students' ancient Chinese reading summarizing ability of Dimension 1 before and after learning through mind mapping and problem-based learning instructional model.....	95
4.16 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Dimension 1.....	95
4.17 Comparison between students' ancient Chinese reading summarizing ability of Dimension 2 before and after learning through mind mapping and problem-based learning instructional model.....	96
4.18 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Dimension 2.....	97
4.19 Comparison between students' ancient Chinese reading summarizing ability of Section 1 of Dimension 2 before and after learning through mind mapping and problem-based learning instructional model.....	98
4.20 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 2.....	98
4.21 Comparison between students' ancient Chinese reading summarizing ability of Section 2 of Dimension 2 before and after learning through mind mapping and problem-based learning instructional model.....	99
4.22 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 2.....	100
4.23 Comparison between students' ancient Chinese reading summarizing ability of Dimension 3 before and after learning through mind mapping and problem-based learning instructional model.....	101
4.24 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Dimension 3.....	101
4.25 Comparison between students' ancient Chinese reading summarizing ability of Section 1 of Dimension 3 before and after learning through mind mapping and problem-based learning instructional model.....	102

List of Tables (Continued)

Table	Page
4.26 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 3.....	103
4.27 Comparison between students' ancient Chinese reading summarizing ability of Section 2 of Dimension 3 before and after learning through mind mapping and problem-based learning instructional model.....	104
4.28 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 3.....	105
4.29 Comparison between students' ancient Chinese reading summarizing ability of Dimension 4 before and after learning through mind mapping and problem-based learning instructional model.....	106
4.30 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Dimension 4.....	106
4.31 Comparison between students' ancient Chinese reading summarizing ability of Section 1 of Dimension 4 before and after learning through mind mapping and problem-based learning instructional model.....	107
4.32 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 4.....	108
4.33 Comparison between students' ancient Chinese reading summarizing ability of Section 2 of Dimension 4 before and after learning through mind mapping and problem-based learning instructional model.....	109
4.34 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 4.....	109

Chapter 1

Introduction

Rationale

China has a long history and culture, which is a prominent feature of China. China has an extremely long cultural tradition, which contains the knowledge, wisdom and rational thinking accumulated by all the Chinese people for several thousands of years. This is China's unique advantage (Xi, 2016). To adhere to China's cultural self-confidence and realize the great idea of rejuvenating Chinese culture, it is very important to learn ancient Chinese. Since the appearance of oracle bone inscriptions more than 3000 years ago, ancient China began to record the history, thoughts, and culture of the Chinese people in writing. The importance of ancient Chinese curriculum has been attached by the state, society, schools, and students of China. “As one of the core basic courses for Chinese Majors in Colleges and universities, ancient Chinese shoulders the important task of inheriting Chinese excellent traditional culture” (Guo, 2021). Ancient Chinese course is also one of the core basic courses of Teaching Chinese to Speakers of Other Languages (TCSOL) major. Therefore, it is very necessary to explore the current situation and methods of undergraduate students' learning ancient Chinese, develop a new teaching model of ancient Chinese course in universities, help students develop their interest in learning ancient Chinese and improve the efficiency and effect of learning ancient Chinese.

The contents of ancient Chinese course are very rich, including anthology, grammar, writing, phonology, exegesis, and Chinese history. Anthologies correspond to the purpose of reading ancient articles, while grammar, writing, phonology, exegesis, and Chinese history correspond to the knowledge of ancient Chinese (Gao, 2021). Among the two teaching purposes of reading ancient articles and learning ancient Chinese knowledge, the former has a very important and practical position. Ancient Chinese course is one of the basic courses in the department of Chinese language and literature, and its teaching purpose is to enhance students' reading ancient Chinese

books ability (Wang, 1999: preface). Learning ancient Chinese course is to cultivate and improve the ability to read Chinese ancient documents (Zhang, 2004; Song, 2021). Thus, the importance of ancient Chinese reading ability is very prominent.

However, according to the situation of Southwest Jiaotong University, where the researcher of this study is working as a teacher of ancient Chinese, the ancient Chinese reading ability of undergraduate students needs to be improved. There is still room for undergraduate students of Southwest Jiaotong University to improve their ancient Chinese reading ability.

There are 3 famous universities to have the same curriculum of Ancient Chinese in Sichuan Province, and they are Sichuan University, Southwest Minzu University and Southwest Jiaotong University. So, the researcher of this study has made questionnaires for about 180 students and 6 lectures of ancient Chinese course in the three universities and have found that undergraduate students think ancient Chinese reading is very important and not easy for them and improvement for the teaching and learning the course is needed.

Mind mapping can play an important role in teaching activities, especially in students' learning effects. Buzan, T.& Buzan, B. (2010, p.31) define a mind map as a graphic representation of radiant thinking. Radiant thinking is the process through which the human brain thinks and generates ideas. Mind mapping is an outline in which major categories radiate from the central image and minor categories are depicted as branches of larger branches (John, 2004). It's a non-linear, network-structured representation of one's thoughts, most often with visual accompaniments, which is organized by a specific starting idea (a root response) and a graph/network of ideas emanating from it (Mento, Martinelli, & Jones., 1999). Mind maps are regarded to have the potential to provide students with a strategy for retaining information, integrating critical thinking and problem-solving skills (Noonan, 2013). Mind mapping has been proved to contribute to people's thinking development and learning progress in many ways. Using mind mapping can help students explore divergent thinking exploring divergent thinking (Alex, Barry & Jieun, 2018). Mind mapping has been widely used in teaching activities and achieved good results. Using

mind mapping in classroom exercises can be used to transcend "chalk and dialogue" and reinvigorate the course (John, 2004). By using mind mapping tools instead of simple text tools to construct abstracts, students can better identify important concepts and think about the relationships and levels between concepts, so as to cultivate the ability to better organize and understand reading content (Kao, Cheng & Tsai, 2017). Mind mapping plays a good role in College Japanese reading teaching (Wu, 2020). The empirical results show that mind mapping training is an effective method to improve students' reading ability (Ting & Yuizono, 2020).

Problem-based learning is also an effective way in teaching and learning. There are three prominent features of problem-based learning, i.e., problems are used to stimulate learning, teachers act as facilitators, and group work is used to stimulate interaction (K. Khadjooi & K. Rostami, 2011). Therefore, in problem-based learning, students are the learning process' center. Learning is carried out in small collaborative groups, and teachers act as facilitators rather than traditional knowledge imparters. When students study independently, they gain new knowledge and experience through the way of analyzing and solving problems (Gijbels, Dochy, and Van den Bossche, 2005). The problem-based learning model promotes independent and context dependent learning, which is considered to be helpful to improve students' mastery of knowledge (Skelin, Schlueter, Rolle and Gaedicke, 2008). And proponents of the problem-based instructional model believe that by providing real practical problems in a peer supported group environment, learners can better apply their knowledge after completing their studies. Research shows that problem-based learning provides students with some advantages, such as improved motivation, teamwork skills, improved critical thinking ability, improved knowledge retention, and better organization and integration of new knowledge (Gonzalez, L., 2019). Problem-based learning has also been widely used in teaching activities and achieved good results. Students can improve the efficiency and accuracy of reading with the help of PBL (Wang, Y., Wang, J. & Sheng, H., 2015). PBL can significantly improve students' English reading performance, and significantly improve the participants' active learning ability and comprehensive cognitive processing ability (Lin, 2018). The application of PBL model among English majors is effective in teaching and learning English text reading comprehension (Alek, 2019).

It has been proved feasible and effective to integrate mind mapping and Problem-Based Learning to develop a new teaching model. The integration of mind mapping and PBL can enable students to memorize and understand the most important formulas, and the teaching effect is good (Yang, Liu & Tian, 2020). The teaching method of PBL integrated with mind mapping has a remarkable effect in the teaching of traditional Chinese medicine nursing technology (Liu, 2022). The teaching method of PBL integrated with mind mapping has a remarkable effect in the teaching of traditional Chinese medicine nursing technology (Liu, 2022).

This kind of research on teaching model with mind mapping and Problem-Based Learning is more applied to medical education. However, there is no such research on applying Mind Mapping and PBL instructional model in reading teaching and learning. Therefore, this thesis will do some research on it.

Research Questions

1. What are the factors affecting ancient Chinese reading summarizing ability of the undergraduate students in Sichuan Province?
2. Is mind mapping and problem-based learning for ancient Chinese reading summarizing ability of the undergraduate students in Southwest Jiaotong University appropriate for further implementation and how?
3. What is the result of mind mapping and problem-based learning instructional model on the undergraduate students' ancient Chinese reading summarizing ability?

Research Objectives

1. To examine the factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan Province.
2. To develop mind mapping and problem-based learning instructional model for ancient Chinese reading summarizing ability of the undergraduate students in Southwest Jiaotong University.
3. To study the result of mind mapping and problem-based learning instructional model for ancient Chinese reading summarizing ability of the undergraduate students in Southwest Jiaotong University.

Research Hypotheses

After implementing mind mapping and problem-based learning instructional model, students' ancient Chinese reading summarizing ability will be higher than before the experiment.

Scope of the Research

Population and the sample group

Population

The total of 42 students from 2 classes with different levels of proficiency – beginner, intermediate, and advanced, who enrolled in ancient Chinese course in Southwest Jiaotong University in semester 2 academic year 2022-2023. Those sections involve the following.

21 students in class 1

21 students in class 2

The Sample Group

The 21 students who enrolled in ancient Chinese course from class 1 in Southwest Jiaotong University in semester 2 academic year 2022-2023 are obtained by cluster sampling.

The Variables

Independent variable:

Mind mapping and problem-based learning instructional model

Dependent variable:

The Students' Ancient Chinese Reading Summarizing Ability

Contents

The teaching contents as experiment with mind mapping and problem-based learning instructional model are Unit 9-12. Four class hours for each unit.

Time frame:

Semester II of Academic Year 2022-2023 (March-July 2023)

Advantages

The advantages of development of the Mind Mapping and Problem-Based Learning Instructional Model can be summarized in three aspects:

To the students: They can have a more interesting and efficient ancient Chinese course, and their learning effect and experience in ancient Chinese reading summarizing ability will be greatly improved.

To the lecturers: They can improve their teaching methods and expand teaching ideas through the instructional model based on Mind Mapping and Problem-Based Learning, to achieve better teaching results.

To the universities: They can obtain better ancient Chinese teaching effect and improve the quality of ancient Chinese teaching for undergraduate students through the instructional model based on Mind Mapping and Problem-Based Learning. At the same time, universities can apply the results of this research to other subjects and obtain richer innovative achievements in teaching and scientific research.

Definitions of Terms

Factors of Students' ancient Chinese reading summarizing ability refer to the internal and external factors collected from students using questionnaire and interviews for lecturers designed by the researcher. The internal factors involve the information about students are actively participating in class, are willing to cooperate and interact with others. And external factors consist of information about the lecturers and circumstances.

Developing instructional model based on Mind Mapping and Problem-Based Learning for ancient Chinese reading summarizing ability refers to a new instructional framework which consists of the stable teaching activities and procedures. Such a developed instructional model with 5 components: 1) Principle & Rationale, 2) Objectives, 3) Contents, 4) Methods of teaching & Materials and 5) Evaluation, is confirmed by the experts in 4 aspects: 1) Utility Standard, 2) Feasibility Standard, 3) Propriety Standard and 4) Accuracy Standard (The Joint Committee on Standards for Educational Evaluation, 1994) as the follows:

Utility Standard are intended to ensure that the developed instructional model will serve the information needs of intended users.

Feasibility Standard are intended to ensure that the developed instructional model will be realistic, prudent, flexible, and frugal.

Propriety Standard are intended to ensure that the developed instructional model will be conducted in conformity to teaching principles and provide positive results

Accuracy Standard are intended to ensure that the developed instructional model shows a measure of closeness to a true value.

Mind Mapping Learning refers to a graphic representation of radiant thinking (Buzan, T.& Buzan, B., 2010, p.31). Mind mapping can play an important role in teaching activities, especially in students' learning effects. How to Mind Map in seven Steps is as follows (Tony, 2018):

Step 1: Place a piece of paper in a horizontal format, and draw an image in the very center of the paper that represents the subject you would like to consider.

Step 2: Now select a color, and draw a thick branch extending from the central image, just like the branch of a tree.

Step 3: Label the branch with a single word of uppercase letters.

Step 4: Send secondary buds from the main branch. Then draw the third level branches that extend from these second level branches. Write keywords or draw symbols, or a combination of both, on all branches.

Step 5: Select another color to create the next main branch around the central image. As before, draw secondary and tertiary branches from this new branch and mark them. Continue to add more primary branches.

Step 6: Move freely on your mind map, jump from one branch to another, fill in any gaps, and add new branches as ideas and associations appear.

Step 7: Add arrows, curves and links between the main branches to strengthen the connection between them.

Problem-Based Learning refers to the guidance of teachers, students explore around problems and learn new knowledge, skills, and attitudes in the process of solving problems. The purpose of Problem-Based Learning is to form problem-solving

skills and autonomous learning ability. The 7 steps of problem-based learning are as follows (Wood, 2003):

Step 1: Identify and clarify unfamiliar terms in the scene, and list the content that cannot be explained after discussion.

Step 2: Define the problem(s) to be discussed, and record a list of agreed problems.

Step 3: “Brainstorm” meeting to discuss problem(s), propose possible explanations based on prior knowledge, and record all discussions.

Step 4: Review steps 2 and 3, and arrange the explanation as the tentative solution.

Step 5: Formulate learning objectives after the group consensus, and the tutor ensure that learning objectives are focused, achievable, comprehensive, and appropriate.

Step 6: Private Learning.

Step 7: Group shares the results of private learning, and the tutor checks the learning and may assess the group.

Integrated Mind Mapping and Problem-Based Learning refers that using Mind Mapping and Problem-Based Learning together to achieve teaching objectives. Problem-Based Learning is usually used to guide students to think and discuss, determine the learning direction, and then mind mapping is used as a specific teaching method to promote students to solve problems step by step. The management instruction of Mind Mapping and Problem-Based Learning in classroom can take 7 steps (Tony, 2018 & Wood, 2003):

Step 1: Identify and clarify unfamiliar terms in the scene, list the content that cannot be explained after discussion, and place a piece of paper in a horizontal format.

Step 2: Define the problem to be discussed, which can be drawn as an image in the very center of the paper.

Step 3: “Brainstorm” meeting in groups to discuss the problem, propose possible explanations based on prior knowledge, and record all discussions with different colored thick branches extending from the central image, just like the branch of a tree.

Step 4: Analyzing the problem. And send secondary buds from the main branch, then draw the third level branches that extend from these second level branches with different colors, and write keywords or draw symbols, or a combination of both, on all branches.

Step 5: Formulate learning objectives after the group consensus, and the tutor ensure that learning objectives are focused, achievable, comprehensive, and appropriate.

Step 6: Learning in groups. Move freely on your mind map, jump from one branch to another, fill in any gaps, and add new branches as ideas and associations appear. And add arrows, curves, and links between the main branches to strengthen the connection between them.

Step 7: Reporting. Group shares the results of private learning of the mind map and the explanation for solution to the problem, and the tutor checks the learning and may assess the group.

Students' ancient Chinese reading summarizing ability refers that the students can (1) catch the main idea of each paragraph, (2) interpret ideas and information, (3) integrate ideas and information, and (4) evaluate and critique content. The researcher designs pre-test and post-test in multiple choice.

Catch the main idea of each paragraph refers to students reading each paragraph and finding the main ideas.

Interpret ideas and information refers to the students 1) specifying correct meaning of words, and 2) generalizing ideas and information not explicitly stated in the text.

Integrate ideas and information refers to students 1) answering questions across related texts, and 2) comparing ideas and information across related texts.

Evaluate and critique content. Evaluate refers to students 1) forming judgement about content, and critique refers to students 2) offering both negative and positive analysis of the content, writing, and structure of a text.

Undergraduate students in Southwest Jiaotong University refer the first-year undergraduate students who study TCSOL major in semester 2 of the academic year 2022-2023 in Southwest Jiaotong University.

Research Framework

This research aims to improve undergraduate students' ancient Chinese reading summarizing ability, and develop a new ancient Chinese reading instructional model based on mind mapping and problem-based learning. Select the undergraduate students of Teaching Chinese to Speakers of Other Languages (TCSOL) major 2022 of Southwest Jiaotong University as the research objects. Make reading test paper as the pre-test and post-test materials, formulate new teaching design plans for 4 units of ancient Chinese reading textbooks, and conduct teaching training for the experimental group. The results of the learning effect of this model are tested by various indicators of the pre- and post-test. Finally, a satisfaction survey of the new teaching model is conducted for the experimental group. The research framework is designed as shown in figure 1.1 below:

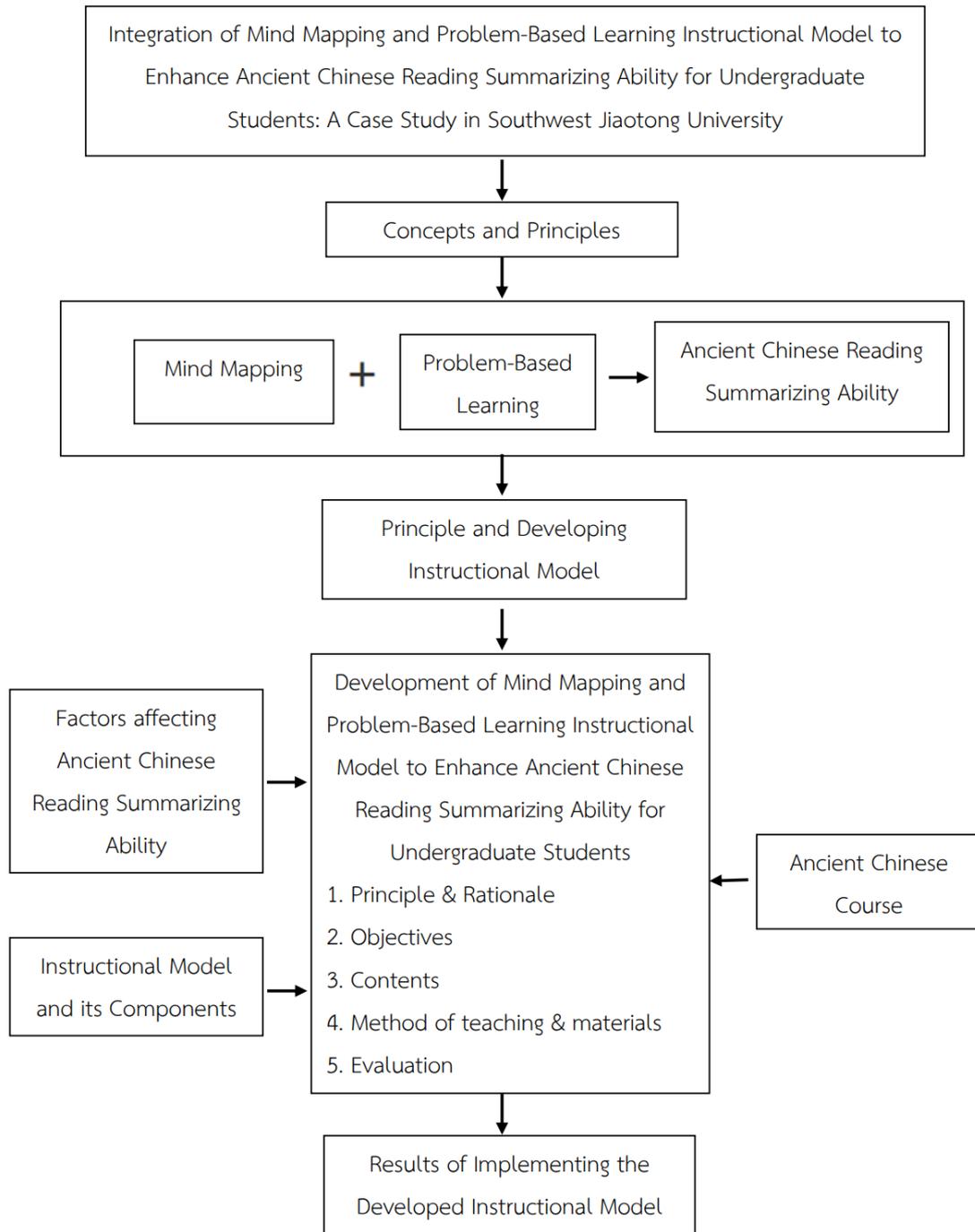


Figure 1.1 Research Framework

Chapter 2

Literature Review

In the study of “Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students: A Case Study in Southwest Jiaotong University”, the researcher studied the documents concerning the following.

1. Ancient Chinese Course in Southwest Jiaotong University
2. Theories of Instructional Model Development
3. Mind Mapping and Problem-Based Learning Instructional Model
4. Ancient Chinese Reading Summarizing Ability
5. Related Research

The details are as follows:

Ancient Chinese Course in Southwest Jiaotong University

Principle

The course of Ancient Chinese is an important professional course offered by the School of Foreign Languages in Southwest Jiaotong University for undergraduate students majoring in Teaching Chinese to Speakers of Other Languages (TCSOL). It is also a basic and compulsory course. It undertakes the Modern Chinese course and plays an important foundational role in students' future courses such as Chinese literature and Introduction to Linguistics, etc. The ancient Chinese course in Southwest Jiaotong University not only emphasizes the teaching of theoretical knowledge of ancient Chinese, but also emphasizes students' reading and understanding of ancient literature. (Southwest Jiaotong University, 2022).

Objectives

The Objectives of the Ancient Chinese course include two parts. The first part is to enable students to understand and master the basic theories and knowledge of ancient Chinese, master the knowledge of Chinese character structure and form evolution, be familiar with the principles of creating a certain number of commonly

used Chinese characters and the changes in ancient and modern word meanings, master the basic grammar knowledge of ancient Chinese, understand the phonetic knowledge of ancient Chinese, and the main laws of phonetic development and changes, etc.; The second part is to enable students to read a large amount of classical works in ancient Chinese, and to have a full understanding and understanding of the thoughts, literature, and other aspects of ancient scholars. (Southwest Jiaotong University, 2022).

Contents

The teaching contents of Ancient Chinese course in Southwest Jiaotong University include 16 units, and each unit has 4 class hours. The teaching contents include stories from *Zuo Zhuan* (7 units), stories from *Guo Yu* (2 units), stories from *Zhan Guo Ce* (7units). All these stories need students to read and understand. (Southwest Jiaotong University, 2022).

The teaching contents as experiment with Mind Mapping and Problem-Based Learning Instructional Model are 4 units, i.e., Unit 9~11, about which the researcher does lesson plans and test paper. The detail of the structure ancient Chinese course semester II academic year 2022-2023 in Southwest Jiaotong University by table 2.1.

Table 2.1 The structure Ancient Chinese Course in Southwest Jiaotong University

Unit	Sub-unit	Method of teaching
Count Zhuang of Zheng State Defeated Duan at Yan (<i>Zuo Zhuan</i>) (4 hrs.)	1.1 Reading text	Students' personal job
	1.2 Reading comprehension	Questions and answers
	1.3 Words and sentences explanation	Tutor's explanation
	1.4 Linguistic common sense and theoretical knowledge	Tutor's explanation
Duke Huan of Qi State Attacked Chu State (<i>Zuo Zhuan</i>) (4 hrs.)	2.1 Reading text	Students' personal job
	2.2 Reading comprehension	Questions and answers
	2.3 Words and sentences Explanation	Tutor's explanation
	2.4 Linguistic common sense and theoretical knowledge	Tutor's explanation

Table 2.1 (Continued)

Unit	Sub-unit	Method of teaching
Gong Zhiqi Advised against Borrowing Roads to the State of Jin (<i>Zuo Zhuan</i>) (4 hrs.)	3.1 Reading text	Students' personal job
	3.2 Reading comprehension	Questions and answers
	3.3 Words and sentences explanation	Tutor's explanation
	3.4 Linguistic common sense and theoretical knowledge	Tutor's explanation
Chong Er's Fleeing Experience (<i>Zuo Zhuan</i>) (4 hrs.)	4.1 Reading text	Students' personal job
	4.2 Reading comprehension	Questions and answers
	4.3 Words and sentences explanation	Tutor's explanation
	4.4 Linguistic common sense and theoretical knowledge	Tutor's explanation
Duke Ling of Jin State was not a Good Monarch (<i>Zuo Zhuan</i>) (4 hrs.)	5.1 Reading text	Students' personal job
	5.2 Reading comprehension	Questions and answers
	5.3 Words and sentences explanation	Tutor's explanation
	5.4 Linguistic common sense and theoretical knowledge	Tutor's explanation
The Battle between Qi State and Jin State (<i>Zuo Zhuan</i>) (4 hrs.)	6.1 Reading text	Students' personal job
	6.2 Reading comprehension	Questions and answers
	6.3 Words and sentences explanation	Tutor's explanation
	6.4 Linguistic common sense and theoretical knowledge	Tutor's explanation
Chu State Return Jin Zhi to Jin State (<i>Zuo Zhuan</i>) (4 hrs.)	7.1 Reading text	Students' personal job
	7.2 Reading comprehension	Questions and answers
	7.3 Words and sentences explanation	Tutor's explanation
	7.4 Linguistic common sense and theoretical knowledge	Tutor's explanation

Table 2.1 (Continued)

Unit	Sub-unit	Method of teaching
Duke of Shao Admonishes King Li of Zhou not to Stop People's Comments (<i>Guo Yu</i>) (4 hrs.)	8.1 Reading text	Students' personal job
	8.2 Reading comprehension	Questions and answers
	8.3 Words and sentences explanation	Tutor's explanation
	8.4 Linguistic common sense and theoretical knowledge	Tutor's explanation
Feng Xuan Acted as the hanger-on of Lord Mengchang of Qi State (<i>Zhan Guo Ce</i>) (4 hrs.)	9.1 Reading text	Students' personal job
	9.2 Reading comprehension	Questions and answers
	9.3 Words and sentences explanation	Tutor's explanation
	9.4 Linguistic common sense and theoretical knowledge	Tutor's explanation
Gou Jian, King of Yue State, Destroyed Wu State (<i>Guo Yu</i>) (4 hrs.)	10.1 Reading text	Students' personal job
	10.2 Reading comprehension	Questions and answers
	10.3 Words and sentences explanation	Tutor's explanation
	10.4 Linguistic common sense and theoretical knowledge	Tutor's explanation
(1) Lu Zhonglian Disagreed to Regard the King of Qin State as Emperor (2) 2: Lord Xinling Steals Military Talisman to Save Zhao State (<i>Zhan Guo Ce</i>) (4 hrs.)	11.1 Reading text	Students' personal job
	11.2 Reading comprehension	Questions and answers
	11.3 Words and sentences explanation	Tutor's explanation
	11.4 Linguistic common sense and theoretical knowledge	Tutor's explanation
Zhuang Xin Persuaded King Xiang of Chu State (<i>Zhan Guo Ce</i>) (4 hrs.)	12.1 Reading text	Students' personal job
	12.2 Reading comprehension	Questions and answers
	12.3 Words and sentences explanation	Tutor's explanation
	12.4 Linguistic common sense and theoretical knowledge	Tutor's explanation

Table 2.1 (Continued)

Unit	Sub-unit	Method of teaching
Empress Dowager of Zhao State asked Envoy from Qi State (<i>Zhan Guo Ce</i>) (4 hrs.)	13.1 Reading text	Students' personal job
	13.2 Reading comprehension	Questions and answers
	13.3 Words and sentences explanation	Tutor's explanation
	13.4 Linguistic common sense and theoretical knowledge	Tutor's explanation
Chu Zhe Persuaded Zhao Empress Dowager of Zhao State (<i>Zhan Guo Ce</i>) (4 hrs.)	14.1 Reading text	Students' personal job
	14.2 Reading comprehension	Questions and answers
	14.3 Words and sentences explanation	Tutor's explanation
	14.4 Linguistic common sense and theoretical knowledge	Tutor's explanation
Fan Ju Persuaded King of Qin State (<i>Zhan Guo Ce</i>) (4 hrs.)	15.1 Reading text	Students' personal job
	15.2 Reading comprehension	Questions and answers
	15.3 Words and sentences explanation	Tutor's explanation
	15.4 Linguistic common sense and theoretical knowledge	Tutor's explanation
The Emperor and The Assassin (<i>Zhan Guo Ce</i>) (4 hrs.)	16.1 Reading text	Students' personal job
	16.2 Reading comprehension	Questions and answers
	16.3 Words and sentences explanation	Tutor's explanation
	16.4 Linguistic common sense and theoretical knowledge	Tutor's explanation

The researcher of this thesis chooses 4 units to experiment, i.e., Unit 9-12. Each unit takes 4 class hours, and there are 16 class hours in the experiment of the new instructional model.

Theories of Instructional Model Development

Instructional is the intentional facilitation of learning toward identified learning goals (Smith & Ragan, 2004), usually follows a certain model. There are various instructional models, which are often formed through the scientific development and practice. Development of instructional models, sometimes also known as instructional design (ID), is a procedural system to develop education and train programs in a consistent and reliable manner (Gustafson & Branch, 2002). And Smith and Ragan (2004) thought instructional design refers to the systematic and reflective process of transforming learning and teaching principles into instructional materials, activities, information resources, and evaluation plans, and can also be defined as describing the process involved in the systematic planning of instruction. And Tracey, Hutchinson and Grzebyk (2014) said, traditionally, it is a process driven field, especially based on system methods.

In recent decades, there have been many theories on developing instructional models in the field of education, which have played a guiding role, been well applied, and achieved good results in the development of many instructional models. These theories for developing instructional models include ASSURE Model, Smith and Ragan Model, Dick and Carey Model, Morrison and Kemp Model, and ADDIE Model etc.

(1) Assure Model

Smaldino, Lowther, Russell and Mims (2018) said ASSURE Model consists of a six-step instructional system design process: 1) Analyze learners, 2) State standards, and objectives, 3) Select strategies, technology, media, and materials, 4) Utilize technology, media, and material, 5) Require learner participation, and 6) Evaluate and revise. Kim and Downey (2016) made a study of 2-year period, conducting on 39 course cases developed with the ASSURE Model, as well as the following effectiveness of the course in promoting student learning, and found that the ASSURE model is a universal model that has been tested over time.

Even in very recent years, it has been widely applied in the development of instructional models and has achieved good results. Sundayana, Herman, Dahlan and Prahmana (2017) described its design to improve students' mathematical communication

skills, is better than traditional learning design. AlNajdi (2018) developed a blended course for young children based on ASSURE paradigm, with utilizing of Google applications and smartphone and tablet applications to support course development, providing activities in the app and handwriting in face-to-face classroom meetings, finding the result that students' writing, pronunciation, and reading had all improved after participation. Adi, Haryono and Sulistyorini (2021) used it to create a design for primary school mathematics education to cultivate financial literacy, and the research results indicated that instructional design developed using the ASSURE Model can effectively improve learners' financial literacy.

(2) Smith-Reagan Model

The Smith-Reagan Model was proposed by Smith, & Ragan (1993) through their book *Instructional Design*. They have absorbed the advantages of Robert Mills Gagne (1916-2002), a famous American educational psychologist, who paid attention to the cognitive analysis of learners' internal psychological processes in the link of learner characteristics analysis, and further considered the significant impact of cognitive learning theory on the organization of teaching content and developed this model. They believed that major activities that an instructional developer or designer completes during the design and development process are:

- 1) Perform an instructional analysis to determine "where we're going. "
- 2) Develop an instructional strategy to determine "how we'll get there."
- 3) Develop and conduct an evaluation to determine "how we'll know when we're there." (Smith & Ragan, 2004)

In the analysis section, the Smith-Reagan Model suggests that it should include three parts: analyzing the learning context, analyzing the learner, and analyzing the learning task. And in the teaching strategy section, the Smith-Reagan model clearly points out that three types of teaching strategies should be designed: teaching organization strategy, teaching content transmission strategy, and teaching resource management strategy.

Since Smith-Reagan Model achieved the combination of behaviorism and cognitivism, fully embodied the basic idea of the "connection cognition theory of learning", and Ragan himself was once the chairman of the AECT theoretical research

department of the United States, and was a famous educational technology and educational psychologist of the time, this model had a great impact on the international community. However, there have been few examples of using the Smith Ragan model for course development in recent years.

(3) Dick & Carey Model

The Dick & Carey Model has been updated several times since its first introduction in 1968 and is now described in detail in the book of Systematic-Design-of-Instruction (8th, ed.) by Dick, Carey and Carey. (2015). It was a product of American educational and cultural backgrounds, and was a typical behaviorist based instructional system development model. This model starts with determining teaching objectives, proceeds through a series of steps, and ends with summative evaluation, forming a complete teaching system development process that allows for continuous modification throughout the entire process. The Dick & Carey Model consists of 9 steps:

Step 1: Assess needs and determine goals

Step 2: Analyze learners and context

Step 3: Instructional analysis

Step 4: Performance objectives

Step 5: Assessment instruments

Step 6: Instructional strategy

Step 7: Instructional materials

Step 8: Formative evaluation of instruction

Step 9: Summative evaluation

Since there are as many as nine steps and each step is critical and none should be skipped, Akbulut (2007) hold the view that the process of it is rigid and cumbersome for the real-life instructional design situations.

The Dick & Carey Model can be applied to various goal-oriented simulation courses, and have still been applied in recent years. Asghar and Fatemi (2016) introduced an axiomatic teaching system design method based on Dick and Carey teaching design models for developing intellectual property online learning courses. Desiningrum and Nuryasana (2018) developed teaching materials to learn technology

through combining the strengthening of the characters are arranged with the Dick and Carey model. Azizha, Umamah and Sumardi (2020) used Dick and Carey Model to develop the Situbondo history learning electronic module for Patukangan's local website and found that it can achieve good results. Jabaay, Grcevich, Marotta and Reynolds (2020) showcases the instructional design of using Dick and Carey models in a one day clinical seminar aimed at improving medical students' exposure to primary investigations.

(4) Morrison, Ross and Kemp Model (Mrk)

MRK was proposed in the book *Designing Effective Instruction* written by three American scholars Morrison, Ross, and Kemp. in 2004. MRK also proposed a system design process that includes nine interrelated steps (Morrison, Ross & Kemp,2004):

Step 1: identifying instructional design problems and specifying relevant goals,

Step 2: examining learner characteristics,

Step 3: identifying subject content and analyzing task components that are related to instructional goals,

Step 4: stating instructional objectives for the learners,

Step 5: sequencing content within each unit to sustain logical learning,

Step 6: designing instructional strategies for each learner to master the objectives,

Step 7: planning instructional delivery,

Step 8: developing evaluation instruments, and

Step 9: selecting resources to support learning activities.

Akbulut (2007) found that this MRK model, contrary to the DC model, is circular rather than linear. Specifically speaking, the nine elements listed above are relatively interdependent. In addition, when designing teaching and learning systems, there is no need to consider them in an orderly manner. And the difference between the MRK model and most other models is that it considers teaching from the learner's perspective, and it effectively applies system methods, where the instructional design process is a continuous cycle. Finally, it emphasizes how to manage the instructional design process (Akbulut, 2007). The MRK model believes that not all nine elements are necessary for all instructional design processes. And

designers can approach problems in different ways when using MRK model to develop an instruction. So, the MRK model is flexible and adaptable. Unfortunately, there have been very few examples of using the MRK model for course development in recent years.

(5) Addie Model

From the various systematic instructional design processes that have already emerged in recent decades, most of them share the core elements of instructional development, i.e. analyzing training needs of learners by needs assessment, designing instruction by writing measurable learning objectives, developing training materials, and implementing training in the teaching environment where the instruction was developed, and evaluating the effectiveness of instruction through formative and summative evaluations and revisions (Akbulut, 2007). So, in the past decades, among many theories of instructional model development, ADDIE, i.e., Analysis, Design, Development, Implementation, and Evaluation, is undoubtedly highly anticipated, which has a very long history from 1970s (Spatioti, Kazanidis & Pange, 2022).

There were 113 papers on instructional design models which had published in 44 SSCI and SCI journals from 1999 to 2014, the data analysis of which proved the its popularity. But the most frequently studied model was ADDIE, with $n=20,22.47\%$ (Goksu, Ozcan, Cakir & Goktas, 2017). And after 2014, ADDIE is still the most popular instructional design mode (Allen, 2017; Brown & Green, 2015). Another research shows an overview of the number of 48 studies about instructional design models, and the majority of them are ADDIE, with $n=77\%$ (Stefaniak & Xu, 2020).

In recent years, many scholars and course designers have applied and studied the ADDIE model, and have achieved good results. Ab Latif and Nor (2020) used Using the ADDIE Model to develop a Rusnani Concept Mapping (RCM) guideline for nursing Students, and found applying RCM, using ADDIE Model, as an effective and innovative teaching method to improve the academic performance of nursing students is feasible and acceptable for nursing educators. Pears & Konstantinidis (2021) utilized the ADDIE Model to developed a cybersecurity training in the Healthcare Workforce, and found that frontline healthcare workforce and nursing students increased their knowledge and confidence abilities against windows of opportunity for cybercrime. Tu, Zhang,

X and Zhang, X. Y. (2021) launched a design plan for the "Three-dimensional Composition" course in the product design major at Tianjin University of Technology relying on ADDIE, and students' learning satisfaction was used to measure the course design after class. And even in the popular distance education in very recent years, the ADDIE instructional design model has played a good role. Spatioti, Kazanidis and Pange (2022) found that, from 23 articles referring to the ADDIE model, it is suitable for meeting different teaching requirements in all online education environments. Seyedinasab, Asghary and Ghasempor (2022) conducted qualitative and quantitative analysis on the data collected during the training course based on the ADDIE model, pretest and posttest, as well as during the tasks of the trainees, and the result of the research showed that the education plan had led to good development in future mathematics teachers' mathematics problem-solving.

From the articles introduced above, and due to the comprehensive research and widespread application of the ADDIE Model in the past decade, seen from the previous text above, the development process of the Mind Map and Problem-Based Learning instructional model in this study also adopts the ADDIE instructional development model.

The ADDIE has a strict linear structure of 5 steps, and the dominance of each simple stage is regarded as a prerequisite for the success of the next stage. The basic stages of the ADDIE for instructional model are as follows (Spatioti, Kazanidis & Pange, 2022):

Stage 1: Analysis. The basic needs of a target group are analyzed, the education goals are identified, the proposed learning environment is delimited and the knowledge and skills of the students are detected.

Stage 2: Design. Related to learning objects, exercises & content evaluation instruments, lesson plans & choice of learning tools.

Stage 3: Development. It's a process of organizing and producing learning material according to stage 2.

Stage 4: Implement. The final product of stage 3 is put into application process in practice within the designed specific learning environments. The continuous modification is important.

Stage 5: Evaluation. It's the systematic thorough examination of a continuing education activity, dividing into 2 forms, i.e., the formative and the final. (Spatioti, Kazanidis & Pange, 2022)

According to the 5 basic stages of ADDIE, we can find that the components of Instructional Model of Mind Mapping and Problem-Based Learning are (1) Principle & Rationale (from stage 1), (2) Objectives (from stage 2), (3) Contents (from stage 3), (4) Methods of teaching & Materials (from stage 4), and (5) Evaluation (from stage 5).

To make assessment of confirm the quality of Mind Mapping and Problem-Based Learning instructional model to enhance ancient Chinese reading summarizing ability, this study has followed the Program Evaluation Standards (PES). Based on the professional literature and experience of educators and evaluation specialists, the Joint Committee on Standards for Educational Evaluation (1994) made the Program Evaluation Standards (PES), which were designed to guide the evaluating educational and training programs. There are 30 standards in the Program Evaluation Standards (PES) (The Joint Committee on Standards for Educational Evaluation, 1994).

So, the appropriateness of Mind Mapping and Problem-Based Learning instructional model in this study is unanimously confirmed by 5 experts in terms of utility (100%), feasibility (100%), propriety (100%), and accuracy (100%) about the 5 components, i.e., 1) Principle & Rationale, 2) Objectives, 3) Contents, 4) Methods of teaching & Materials, and 5) Evaluation.

Mind Mapping and Problem-Based Learning Instructional Model

Mind Mapping

(1) Definition of Mind Mapping

The term mind mapping is not difficult to understand literally. But, in fact, it has its special definitions and characteristics. The mind mapping technique was first founded by Tony Buzan as a non-linear method of making meaningful and logical connections between two or more different concepts (Buzan, 1972; Buzan and Buzan, 1995). Buzan, & Buzan (2010) define a mind map as a graphic representation of radiant thinking. Radiant thinking is the process through which the human brain thinks and generates ideas. Mind mapping is an outline in which major categories

radiate from the central image and minor categories are depicted as branches of larger branches (John, 2004). It's a non-linear, network-structured representation of one's thoughts, most often with visual accompaniments, which is organized by a specific starting idea (a root response) and a graph network of ideas emanating from it (Mento, Martinelli, & Jones, 1999). So, mind mapping can be defined as a visually intuitive two-dimensional graph that connects various concepts through certain logical relationships.

(2) Characteristics of mind mapping

Tony Buzan believed mind mapping technique could be applied to all the human daily activities, and that would show the creativity and radiance of our thought processes, just like mirrors (Buzan, 2018). And he compared the characteristics of Conventional Note-taking and Mind Mapping as the following Table 2.2 (Buzan, 2018). Compared with linear concept maps, mind maps are more global in methodology (Adnan & Ilias, 2012). So, they have great confidence in the important role and widespread application of mind mapping. In fact, they are right. And this depends on the characteristics, advantages, and ease of operation of mind mapping.

Table 2.2 Characteristics of Conventional Note-taking vs Those of Mind Mapping

Conventional Note-taking	Mind Mapping
Linear	Multi-faceted
Monochrome	Colourful
Word-based	Words combined with pictures
Listed logic	Associated logic
Sequential	Multidimensional
Restrictive	Imaginative
Disorganized	Analytical

Tony Buzan and Barry Buzan stated that Mind Map has four essential characteristics (Buzan & Buzan, 1994), i.e., a) The subject of attention is crystallized in a central image. b) The main themes of the subject radiate from the central image as

branches. c) Branches comprise a key image or key word printed on an associated line. Topics of lesser importance are also represented as branches attached to higher level branches. d) The branches form a connected nodal structure. And some researchers have other expressions. Wu (2020) think Mind mapping has 4 characteristics: (1) there is only one central theme, (2) the branches diverge around, (3) the branch consists of key numbers or words, and (4) it's differently colored for different levels and contents.

(3) Steps of Mind Mapping

Some researchers have provided different steps of mind mapping. According to Tony Buzan, there are seven steps to make a Mind Map, which are clear and easy following (Buzan, 2018). Wang, Lee and Chu (2010) introduced 12 steps of mind mapping. And Loc, and Loc (2020) introduced 5 steps of mind mapping. The three different kinds of mind mapping steps can be summarized and compared in Table 2.3. Though the number and contents of the three mind mapping steps are different, they share some common steps. The researcher of this thesis would like to use the Tony Buzan's 7 steps of mind mapping to the new instructional model.

(4) Advantages of Mind Mapping

For the advantages of Mind Mapping, Eppler (2006) found that mind mapping is very useful because it is (1) easy to learn and apply, (2) encourages self-expression, (3) provides a concise hierarchical overview, and (4) is easy to expand and add content. And Zampetakis, Tsironis and Moustakis (2007) found that participants prefer teamwork when building mind maps, because it can develop collaborative interaction and rich knowledge. These advantages also provide a strong basis for the widespread application of mind mapping in different fields.

So, the researcher believe that mind mapping can really affect ancient Chinese reading summarizing ability from 4 factors: (1) building a personalized knowledge framework, (2) grasping the direction of the article, (3) obtaining information accurately and quickly, and (4) cultivating creative and divergent thinking. (Wu, 2020; Liu & Yuizono, 2020)

Table 2.3 Summarized and Compared Three Kinds of Mind Mapping Steps

Tony Buzan (2018)	Wang, Lee and Chu (2010)		Loc, N. P. and Loc, M. T. (2020)
<ol style="list-style-type: none"> 1. Place paper and draw an image in the center 2. Select a color, and draw a thick branch extending from the central image 3. Label the branch with a single word of uppercase letters. 4. Send secondary buds, and write keywords or draw symbols 5. Select another color to create the next main branch as before and continue to add more primary branches. 6. Move freely on mind map, such as jump, fill, and add new branches. 7. Add arrows, curves, and links between the main branches 	<ol style="list-style-type: none"> 1. Put the topic in the center. 2. Use A3 or A4 paper and put it horizontally. 3. Good-quality paper provides comfortableness, while blank paper provides a thinking space. 4. Application of image. 5. Application of color. 6. Application of words 7. Make the length of the line. equal to size of figure or length of sentence. 	<ol style="list-style-type: none"> 8. Make the lines be smooth and linked to each other. 9. Make the thickness of lines suitable. 10. Make the structure and levels of mind map radiant 11. Make the structure clear and ordered. 12. Make the style of mind maps highlight the points and demonstrate self-style. 	<ol style="list-style-type: none"> 1. Start a mental map by writing a concept in the center of a paper. 2. Start with an open and innovative attitude and a brain drain process. 3. Place every category related to the central concept in the form of concentric branches and sub-branches. 4. Use keywords, photos, and icons to quickly record ideas. 5. Organize topics related to the central concept well.

Problem-Based Learning

(1) Definition of Problem-Based Learning

Problem-based learning (PBL), with more than 50 years history, is a part of the tradition of meaningful, experiential learning (Hmelo-Silver, 2004). In 1969, Barrows, an American professor of neurology, founded the PBL teaching mode, which implemented the group teaching method of combining students' self-study with guidance at that time. Since then, PBL has been widely used in medical schools. Though PBL was developed in medical schools originally, it has been actually applied in a variety of teaching settings and achieved considerable success and widespread approval.

There are various definitions of problem-based learning according to different researchers. Some definitions are as follows. Wilkerson and Feletti (1989) noted that problem-based learning provides students' new learning with compelling issues that give students more opportunity to discuss actively, under the help of teachers' appropriate feedback and corrective assistance. Eagle, Harasym, and Mandin (1992) believed that problem-based learning is a professional education approach based on research and students, mostly adults, can learn most effectively through it. Savery (2015, p.5) noted that problem-based learning is an instructional students-centered approach that can promote students to make a viable solution for a problem through their researching, integrating, practicing, and applying their knowledge and skills. Though these definitions of problem-based learning above are not the same, they are largely identical with only minor differences.

(2) Characteristics of Problem-Based Learning

Problem-Based Learning has its unique characteristics and is different from other teaching models. PBL is a key experiential learning which is usually organized about the investigation, interpretation, and problems resolution. Students usually work in small collaborative groups, in PBL, to learn the knowledge needed to solve problems, while teachers act as guides. PBL is very suitable to help students' becoming active learners, as it always places learning in the real world and makes students responsible for their own learning, which can make students to think more, do more, and learn more mostly by themselves, with teachers' guiding sometimes.

Problem-Based Learning was designed with five important goals to help students: (1) construct an extensive and flexible knowledge base, (2) develop effective problem-solving skills, (3) develop self-directed, lifelong learning skills, (4) become effective collaborators, and (5) become intrinsically motivated to learn (Barrows and Kelson, 1995, Monograph 1). So, PBL can be widely used in teaching activities because it can better assist students in learning and achieve good learning outcomes.

However, the implementation of PBL is not easy or arbitrary. Firstly, not all problems can be considered as problems in PBL, and there are some requirements for them. The problem in PBL is realistic ill-structured, even, and open-ended problem, and the role of it is to foster flexible thinking and focus for learning information and reasoning strategies (Hmelo-Silver, 2004). The process of PBL is also not easy or arbitrary, including recognizing facts, creating ideas, and learning issues, Self-Directed Learning (SDL), reexamining and reflecting. The role of teacher in PBL is quite different from that in traditional instructional models, which is mostly to promote learning process and model reasoning instead of teaching. So, the teacher in PBL is an expert in learning and able to provide wonderful strategies for students' learning and thinking, instead of an expert in teaching the content himself or herself (Hmelo-Silver, 2004). Introducing PBL into a course makes new requirements for teachers, asking them to act as facilitators for small student group learning, instead of providers of knowledge or information (Wood, 2003). Collaboration in PBL is very important, including group discussion of ideas and each student bringing new knowledge to group to solve problems. And students in PBL are also required, different from in other instructional models, to put their knowledge into use and to be reflective and self-directed learners (Hmelo-Silver, 2004). Group learning is not only conducive to acquiring knowledge, but also has some other desirable attributes, such as communication skills, teamwork, problem solving, independent learning responsibilities, sharing information and respect for others (Wood, 2003). For assessment of PBL in courses, it usually doesn't depend on the final result, for example, the final test. Teachers should provide students feedback, and formative and summative assessment procedures are used at the same time. (Wood, 2003).

There are three prominent features of problem-based learning, i.e., problems are used to stimulate learning, teachers act as facilitators, and group work is used to stimulate interaction (Khadjooi & Rostami, 2011). Therefore, in problem-based learning, students are the center in the learning process. Learning is carried out in small collaborative groups, and teachers act as facilitators rather than traditional knowledge imparters. When students study independently, they gain new knowledge and experience in analyzing and solving problems (Gijbels, Dochy & Van den Bossche, 2005). The characteristics of PBL can also explain why it can be widely used in almost all kind of teaching activities.

(3) Steps of Problem-Based Learning

Some researchers have provided different steps of Problem-Based Learning. According to Wood (2003), there are seven steps to conduct PBL, which are clear and easy following. Arends (2007) established five phases or steps in the learning of PBL. Amalia, Surya, and Syahputra (2017) made five steps of PBL, While Dolmans and Snellen-Balendong (2000) made seven steps of PBL. The four different kinds of PBL steps can be summarized and compared in Table 2.4. Though the number and contents of the four PBL steps are different, they share some common steps. The researcher of this thesis would like to use the Wood's 7 steps of mind mapping to the new instructional model.

Table 2.4 Summarized and Compared Four Kinds of PBL Steps

Wood (2003)	Arends (2007)	Amalia, Surya, and Syahputra (2017)	Dolmans and Snellen-Balendong (2000)
<ol style="list-style-type: none"> 1. Identify and clarify unfamiliar terms, and list the content that cannot be explained. 2. Define the problem(s) to be discussed, and record a list of agreed problems. 3. “Brainstorm” meeting to discuss problem(s), propose possible explanations and record discussions. 4. Review steps 2 and 3. 5. Formulate learning objectives with the tutor’s guide. 6. Private Learning. 7. Group shares the results, and the tutor checks and assess. 	<ol style="list-style-type: none"> 1. Students are oriented on the issue. 2. Students are organized to learn. 3. Investigation is carried out independently and in group. 4. Students are developing and presenting their work. 5. Problem-solving processes groups are analyzed and evaluated. 	<ol style="list-style-type: none"> 1. Define the problem 2. Self-learn 3. Investigate 4. Exchange knowledge 5. Assess 	<ol style="list-style-type: none"> 1. Identify central issue and inventory of prior knowledge. 2. Determine the data type to be obtained. 3. Relate data of step 2 to step 1. 4. Discover the mechanism which can explain the findings. 5. Generate hypotheses. 6. Consider the certainty of the diagnosis. 7. Draw up a management plan.

(4) Advantages of Problem-Based Learning

The popularity and rapid widespread of PBL in many fields, especially in medical community, is attributed to its prominent advantages. Barrows (2000) listed seven advantages of PBL, which can be summarized as following:

- a) Making course content relevant by building learning around problems.
- b) Reducing information overload by focusing learning on key information relevant to real scenarios to.
- c) Developing valuable transferable skills, such as leadership, teamwork, communication, and problem solving.
- d) Promoting students to take responsibility for their own learning.
- e) Increased students' learning motivation through 'real-life' scenarios.
- f) Encouraging deep and multiple levels of learning instead of traditional surface teaching methods
- g) Using a constructional method to learning.

And Wood (2003) made a summary about the 6 advantages of PBL, which can be summarized as following:

- a) Student centered.
- b) Generic competencies.
- c) Integration.
- d) Motivation
- e) "Deep" learning.
- f) Constructivist approach.

So, the researcher believe that problem-based learning (PBL) can affect ancient Chinese reading summarizing ability from 3 factors: (1) preparing for preview questions or background information, (2) brainstorming and cooperating in groups, and (3) integrating cognitive process. (Wang et al, 2015; Lin, 2018)

Mind Mapping and Problem-Based Learning (MMPBL)

Due to the widespread use and excellent teaching effectiveness with mind mapping and problem-based learning respectively in teaching, including reading instruction, the researcher of this thesis combines them to create a new instructional model, i.e., Mind Mapping and Problem-Based Learning instructional model (MMPBL),

which also has 7 teaching steps, which integrate the 7 steps of mind mapping and 7 steps of PBL, forming an organic whole with mutual synergy and promotion for learning. The teaching steps of these three are compared in Table 2.5 as follows:

Table 2.5 Comparison the Steps of Mind Mapping, Problem-Based Learning, and MMPBL Instruction Model

	Tony Buzan (2018): Mind Mapping	Wood (2003): Problem-Based Learning	MMPBL in this thesis
Step 1	Place paper and draw an image in the center	Identify and clarify unfamiliar terms, and list the content that cannot be explained.	Identify and clarify unfamiliar terms in the scene, list the content that cannot be explained after discussion, and place a piece of paper in a horizontal format.
Step 2	Select a color, and draw a thick branch extending from the central image	Define the problem(s) to be discussed, and record a list of agreed problems.	Define the problem to be discussed, which can be drawn as an image in the very center of the paper.
Step 3	Label the branch with a single word of uppercase letters.	“Brainstorm” meeting to discuss problem(s), propose possible explanations and record discussions.	“Brainstorm” meeting in groups to discuss the problem, propose possible explanations based on prior knowledge, and record all discussions with different colored thick branches extending from the central image, just like the branch of a tree.
Step 4	Send secondary buds, and write keywords or draw symbols	Review steps 2 and 3.	Analyzing the problem. And send secondary buds from the main branch, then draw the third level branches that extend from these second level branches with different colors, and write keywords or draw symbols, or a combination of both, on all branches.

Table 2.5 (Continued)

	Tony Buzan (2018): Mind Mapping	Wood (2003): Problem-Based Learning	MMPBL in this thesis
Step 5	Select another color to create the next main branch as before and continue to add more primary branches.	Formulate learning objectives with the tutor's guide.	Formulate learning objectives after the group consensus, and the tutor ensure that learning objectives are focused, achievable, comprehensive, and appropriate.
Step 6	Move freely on mind map, such as jump, fill, and add new branches.	Private Learning.	Learning in groups. Move freely on your mind map, jump from one branch to another, fill in any gaps, and add new branches as ideas and associations appear. And add arrows, curves and links between the main branches to strengthen the connection between them.
Step 7	Add arrows, curves, and links between the main branches	Group shares the results, and the tutor checks and assess.	Reporting. Group shares the results of private learning of the mind map and the explanation for solution to the problem, and the tutor checks the learning and may assess the group.

Ancient Chinese Reading Summarizing Ability

Firstly, with the advent of the high-tech era in the 21st century, reading is more important. In today's knowledge-based economy and lifelong learning, reading ability has become the most important ability for human beings to obtain information and adapt to life. Whether from the perspective of learning achievement or practical life, reading ability is the key element of successful learning and life. In recent years, governments of all countries have faced the problem of improving national competitiveness. In Europe and the United States, the number of books

published is often used as an indicator of cultural level, and the cultivation of reading habits is the foundation of national culture and the focus of governance. Therefore, the improvement of national culture and national quality, the stimulation of reading motivation, the formation of reading habits and the cultivation of reading ability are all important keys to keep moving forward.

Reading ability or reading literacy is the one of the most important abilities to effectively learn and adapt to life. The development of reading ability is a complicated cycle process, which demands the integration of cognition, skills, and feelings. With the advent of the high-tech era in the 21st century, reading is more important. With the emphasis on knowledge economy and lifelong learning, reading ability has become the most important ability for human beings to obtain information and adapt to life. Whether from the perspective of learning achievement or practical life, reading ability is the key element of successful learning and life.

As the cultivation of reading literacy is very important and crucial to the growth, education, and daily life of each student. Many people, especially experts, scholars, and institutions, are increasingly paying attention to the cultivation and evaluation of students' reading literacy. Among them, the evaluation of reading literacy is crucial, as it can provide a scientific description of the current situation of students' reading ability. People can determine the starting point and direction of reading ability training through the results of reading ability evaluation, and check the effectiveness after training. So, the International Association for the Evaluation of Educational Achievement (IEA) has been conducting international assessments of reading achievements and learning and reading environments on a regular basis for nearly 60 years, and each successive PIRLS assessment has continued in this tradition (Mullis & Martin, 2021). Since 1969, the National Assessment of Educational Progress (NAEP) has been a national indicator for American students to check what they know and can do in their major subjects, including English reading (National Assessment Governing Board, 2019). And the Program for International Student Assessment (PISA), starting from 2000, has its framework to assess the reading literacy focusing on reading literacy skills, including finding, selecting, interpreting, integrating, and evaluating information from texts associated with situations (OECD [n. d.], 2018). So,

it's clear that reading ability or reading literacy is very important for students.

In terms of “reading ability”, which are also called “reading literacy” by some researchers recently, the three most authoritative evaluation systems recognized internationally are PIRLS, PISA and NAEP.

The PIRLS' reading literacy definition currently can be summarized as the ability to understand and use those written language forms (Mullis & Martin, 2019). Readers can construct meaning through reading different forms of texts, and they read for learning, participating and enjoyment. And the PIRLS' assessment integrates four broad-based comprehension processes: (1) focus on and retrieve explicitly stated information, (2) make straightforward inferences, (3) interpret and integrate ideas and information, and (4) evaluate and critique content and textual elements (Mullis & Martin, 2019).

The PISA framework to assess the students' reading literacy pay more attention to 5 reading literacy skills, which include: (1) finding, (2) selecting, (3) interpreting, (4) integrating, and (5) evaluating information from the full range of texts associated with situations that reach beyond the classroom (OECD, 2018). With the continuous development in modern science and technology, the media of reading has changed greatly, not only limited to books, but also the structure and format of texts have changed, and people's reading consciousness and reading strategies have also been adjusted. So, PISA made some adjustment in reading test 2018, and believes that successful information processing strategies include: (1) analysing, (2) synthesising, (3) integrating, and (4) interpreting relevant information from multiple text (or information) sources (OECD, 2018: 4). Therefore, we can find that integrating and interpreting are important and irreplaceable in PISA framework for the students' reading literacy assessment.

The NAEP Reading Framework agrees that reading, being conceptualized as a dynamic cognitive process, is an active and complex process, which involves 3 aspects, i.e., (1) understanding written text, (2) developing and interpreting meaning, and (3) using meaning as appropriate to type of text, purpose, and situation (NAGB, 2019). The NAEP Reading Framework also believes that reading is an active and complicated process, involving many different behaviors. According to NAEP's

description of reading behaviors (NAGB, 2019), this thesis briefly summarizes it into 4 steps: (1) forming an overview and searching for information, (2) interpreting and evaluating, (3) forming assumptions and revising initial ideas and knowledge, (4) integrating new understandings.

Although PIRLS, PISA and NAEP do not have the same understanding of the reading process, nor the sub-ability of reading, there are still some similarities, and basically all reflect the understanding process from easy to difficult. This paper roughly divides the reading process into two stages, namely: (1) easy and basic reading stage, which require students' recognizing ability, and (2) non-easy and important reading stage, which require students' summarizing ability. Among them, the second stage is the focus and much more challenge than the first stage, which is shown in Table 2.6. The reading process and sub-reading ability of PIRLS, PISA and NAEP corresponding to the second stage are summarized.

Reading summarizing ability is a very important branch of reading ability. This thesis summarizes four factors of reading summarizing ability, which mainly consistent to the reading standards of PIRLS, PISA and NAEP. So, this research is very meaningful and important. Reading summarizing ability is part of reading ability, which is absolutely necessary. Because continuous iterative upgrading technologies have rapidly changed people's way of reading and exchanging different forms of information, and people are demanded to adapt to fast changing contexts and find and learn from various information sources successfully (OECD [n. d.], 2018).

The ability to summarize content quickly and accurately from a large amount of information and materials is not only reflected in people's processing of modern information, but also applicable to students' reading of ancient Chinese materials. As an ancient civilization with a long history, China has a large number of ancient documents. Reading these documents and summarizing the contents quickly and accurately is an important goal for students to learn ancient Chinese.

This thesis proposes four dimensions of reading summarizing ability covering the sub-reading abilities in non-easy and important stage by table 2.6.

Table 2.6 Compared Aspects of Reading Abilities

	PIRLS (Mullis & Martin, 2019: 8)	PISA (OECD, 2018:3,4)		NAEP (NAGB, 2019:5)	Dimensions of reading summarizing ability
		Before 2018	From 2018 on		
1.Easy and basic reading stage (Recognizing ability)	(1) focus on and retrieve explicitly stated information (2) make straightforward inferences	(1) finding (2) selecting	(1) analyzing	(1) forming an overview and searching for information	
2.Non-easy and important reading stage (Summarizing ability)	(1) Interpret and integrate ideas and information (2) evaluate and critique content and textual elements	(1) interpreting (2) integrating (3) evaluating	(1) synthesizing (2) interpreting (3) integrating	(1) interpreting and evaluating (2) forming assumptions and revising initial ideas and knowledge (3) integrating new understandings	(1) catch the main idea of each paragraph interpreting (2) interpret ideas and information (3) Integrate ideas and information (4) evaluate and critique

In this thesis students' ancient Chinese reading summarizing ability refers to the students can: (1) catch the main idea of each paragraph, i.e., read each paragraph and find the main ideas; (2) interpret ideas and information, i.e., explain the meanings of ideas and information and generalize ideas and information not explicitly stated in the text; (3) integrate ideas and information, i.e., answer questions across related texts and compare ideas and information across related texts; and (4) evaluate and critique content, i.e., form judgement about content and offering both negative and positive analysis of the content, writing, and structure of a text. Details in Table 2.6.

Related Research

Applying Mind Mapping in Teaching

Due to the characteristics, advantages, and ease of operation of mind mapping mentioned before, it is not difficult for people to think of applying it extensively to practical teaching situations. In recent years, researchers are still very interested in the application in teaching with mind mapping. They have done a lot of researches to show the effectiveness of mind mapping in teaching activities. The researches are as follows:

Wang and Dostal (2018) found that Mind mapping is a kind of thinking tool, which is based on divergent thinking. By connecting each target word with other related words or concepts, it establishes a knowledge structure for each target word. It also combines text, pictures, colors, images, and graphics, making learning information a vivid visual form. Using mind mapping in learning conforms to the theory of visual knowledge, information processing and brain science. Therefore, English teachers and students should be encouraged to integrate mind mapping as an effective English vocabulary teaching method into their education process.

Liu, Tong, and Yang (2018) found that in the teaching of programming language in Application-oriented undergraduate colleges and universities, using minds mapping teaching method, according to the teaching content, the abstract and invisible thinking mode is designed into a visible and radial thinking mode, which can enhance students' logical thinking and innovative thinking ability, stimulate the development of students' all-round learning thinking, and improve students' understanding.

Davletkaliyeva, Muldasheva, Sarsenbayeva, Kuzhagulova, and Kerimberdina (2018) found that the application of mind mapping technology in the classroom of ordinary schools in Kazakhstan is effective, and positive changes have taken place in both students and teachers. Mind mapping technology promotes individual cognitive development, mental ability, and intelligence. Mind mapping technology provides a wide range of opportunities for people to position in various disciplines and integrate the knowledge they have obtained, and is conducive to students' self-development and self-improvement.

Selvi and Chandramohan (2018) found that mind mapping is a common tool for constructing and visualizing information, and it is also an active learning method. There is a significant positive difference between students' academic performance and their attitude towards learning the subject through mind mapping.

Gao, Zhao, Zhang, and Qian (2018) found in the undergraduate teaching of artificial intelligence, mind mapping is introduced into teaching, which cultivates students' learning interest and enables them to learn to build a knowledge framework endowed with self-cognitive process. Therefore, students' thinking and learning ability have been developed and improved, effectively improving teaching efficiency and achieving good teaching results.

Prabha and Aziz (2020) found that using the features of multi category mind mapping, namely pictures, keywords, and word grouping, helps students learn vocabulary, and hopes to encourage students, teachers, and curriculum designers to integrate multi category mind mapping strategies in English classes.

Astriani, Susilo, Suwono, Lukiati, and Purnomo (2020) found that mind mapping plays an important role in learning mode, which can improve students' metacognitive skills. Applying mind mapping to the grammar of learning model can improve students' metacognitive skills as candidates for science teachers.

Grazziotin-Soares, Curtis, and Ardenghi (2020) found that using mind mapping in dental education can benefit students with different learning styles and help teachers determine students' conceptualization level of a topic.

Elasrag and Elsabagh (2020) found that nursing undergraduates who teach through mind mapping show better critical thinking skills than those at the pre

intervention level. In addition, students' knowledge progress and positive attitude towards mind mapping become obvious.

And mind mapping has been proved to be efficient for students' reading ability. Wu (2020) found mind mapping plays a great role in College Japanese reading, and it can help students build their personalized knowledge framework, stimulate their reading motivation, and cultivate their creative and divergent thinking.

And Liu and Yuizono (2020) found that mind mapping has a positive impact on the development of students' reading ability, helps to improve reading speed and catch information both accurately and quickly.

Seckman and Van de Castle (2021) found that by using concepts and mind mapping tools in graduate informatics practice courses, they explore digital health technologies in the medical environment. The diversity and creativity of mind mapping and students' comments show that they have the ability to apply critical thinking skills to the specific content and technology studied. Nurse educators and healthcare professionals should consider using mind mapping technology.

Tao and Xie (2021) found that in order to enhance teaching effect in computer network course and mobilize students' learning enthusiasm, mind mapping is introduced into computer network classroom teaching. A visual teaching mode of computer network knowledge map based on mind mapping is designed, which improves the computer network course' teaching quality and stimulates students' interest when learning.

Polat and Aydin (2021) found that educational practice is of great significance to the development of critical thinking, and mind mapping is a practice that supports personal skills, such as interpretation, analysis, interpretation, and evaluation. Applying mind mapping to preschool courses for children aged 48-72 months can effectively promote children's critical thinking skills.

Tosheva (2022) found that using cloud technology to create mind mapping technology, such as Google Drawings, Mind 42, Mindmaster etc. can inspire teachers and students to design and create interactive online learning resources, so as to improve students' motivation and participation.

So, the researcher believe that mind mapping can really affect ancient Chinese reading summarizing ability from 4 factors: (1) building a personalized knowledge framework, (2) grasping the direction of the article, (3) obtaining information accurately and quickly, and (4) cultivating creative and divergent thinking. (Wu, 2020; Liu & Yuizono, 2020)

From the literature of the past five years, researchers have done a lot of study on the mind mapping's application in teaching and learning, and they also highly recognize the effectiveness of mind mapping in teaching activities. It can be found that mind mapping can be applied to a variety of teaching courses, and can achieve good teaching results in its teaching activities and improve students' various abilities. And mind mapping also has a good effect on improving students' reading ability.

Applying Problem-Based Learning in Teaching

PBL's advantages are very prominent and cannot be ignored. This is why it is widely used in so many fields, especially in teaching. In recent years, researchers are still very interested in those teaching practice with applying problem-based learning. They have done a lot of researches to show the effectiveness that problem-based learning has applied in classroom activities. The researches are as follows:

Chutrtong, J and Chutrtong, W (2019) found that problem-based learning (PBL) has obvious effectiveness in health subject learning, and students' satisfaction with PBL learning is also high.

Pavlenkova and Monakhova (2018) found that problem-based learning can help teachers guide students to find the most appropriate learning resources and the most important and necessary information. It is a positive teaching method, which can enable teenagers to participate in life communication and creative thinking.

Compton, Owilli, Norlin, and Murdoch (2020) found that integrating problem-based learning and using evaluation tools in undergraduate nursing research courses is conducive to nursing students to actively participate in the construction and reconstruction of their knowledge and enhance critical thinking.

Setiana (2018) found that problem-based learning can improve the soft skills of students in the Department of mechanical engineering education of the University

of Indonesia in the production process, and can also develop students' critical thinking skills.

Amrina, Syahmaidi, Zuzano, Wahyuni, and Hidayat (2018) found that the problem-based mathematical learning model developed by the author is very effective and practical, which can improve students' ability of logical thinking, critical thinking and creative thinking.

Gomez and Freire (2022) found that problem-based learning is of great importance to the development of teaching process. It focuses on problem-solving learning, student-centered learning, autonomous learning, small team cooperation, the construction of learning trust environment, investigation activities, and personal and collective responsibility.

Jonasen and Gram-Hansen (2019) found that problem-based learning (PBL) can be used to cultivate computational thinking skills in higher education, and has teaching effectiveness and benefits.

Roshayanti, Wicaksono, and Minarti (2018) found that PBL teaching mode is significantly different from the traditional teaching mode in improving students' environmental literacy. PBL mode can well improve students' environmental literacy.

Mustapa, Salleh, and Abd Mutalib (2020) found that in the accounting course using PBL, students are more active and more involved, which can improve their communication skills and communication skills.

Sofijah, Muhari, and Suhanadji (2018) found that the implementation of problem-based learning model in teaching activities can significantly improve the activities and academic performance of primary school students.

Arviana, Irwan, and Dewi (2018) found that implementing problem-based learning in mathematics teaching can improve students' critical thinking, which is significantly higher than that of students who do not participate in problem-based learning.

Chova, Martinez, and Torres (2018) found that PBL immerses in the diversity of sharing interdisciplinary space, and practicing interdisciplinary in PBL involves students' interpersonal and personal learning, and eliminates the boundary between interdisciplinary learning space and real life.

In addition, PBL has also been applied to reading teaching in different languages, which has also proved to be effective. Wang et al. (2015) found that preview questions can help students obtain the background knowledge and promote their own imagination and prediction, and brainstorming and cooperation are useful for reading.

And Lin (2018) found that the problem-based learning (PBL) method was incorporated into the web-based English reading course, which significantly improved the participants' active learning ability and integrated their cognitive processing ability.

From the literature of the past five years, researchers have done a lot of study on the PBL's application in teaching, and they also highly recognize the effectiveness of PBL in teaching activities. It can be found that PBL can be applied to a variety of teaching courses, and can achieve good teaching results in its teaching activities and improve students' ability, including reading ability

Applying MMPBL Instructional Model in Teaching

In recent years, some researchers have found that the integration of mind mapping and problem-based learning instructional model can become very good and effective for teaching and learning, which can be applied to practical teaching activities. However, the number of studies is not large, as follows:

Hidayati, Zubaidah, Suarsini, and Praherdhiono (2019) found that integrated Problem-Based Learning and Digital Mind Maps (PBLDMM) can improve students' five aspects of creativity and PBLDMM model is proved to be valid, practical and effective in improving students' creativity.

Gao, Wang, Deng, Wan, and Mu (2022) found that the combination of PBL teaching mode and mind mapping is suitable for Chinese nursing teaching. It can improve students' autonomous learning ability, help Chinese nursing students master theoretical knowledge and improve their practical ability.

Lu, Yin, and Sun (2021) found that the instructional model of problem-based learning (PBL) and mind mapping can effectively help students learn various and complex teaching contents in the courses of medicinal botany and pharmacognosy.

Sun, Zhang, Wang, Cheng, Huang, and Zhang (2021) found that the application effect of mind mapping combined with problem-based learning (PBL) teaching method in infectious disease probation is very good. The evaluation scores of the research group are higher than those of the control group in terms of clear organization, prominent key and difficult points, in-depth understanding of content, improved learning interest, improved ability to raise questions, improved clinical thinking ability, improved self-learning ability, and improved learning efficiency.

Li, Li, Xu, Zheng, and Song (2020) found that introducing mind mapping into the general course of food nutrition and health under the problem-based teaching mode can effectively improve the teaching process and help students actively and efficiently complete the whole learning process. More importantly, while fully training students' ability to analyze and solve problems, it also points out the direction for cultivating students' logical thinking and innovative ability.

Huang and Liang (2020) found that in clinical nursing operation teaching, the teaching method of mind mapping combined with problem-based learning can improve students' ability and thinking level, and improve teachers' teaching quality and teaching effect. The application effect is very ideal.

Yang, Liu, and Tian (2020) found that in the teaching process of chemical dynamics, the use of PBL mind mapping method can make students remember and understand the most important formula well, and the teaching effect is good.

Qian and Zhang (2020) found that the application of problem-based learning method combined with mind mapping in nursing teaching is conducive to students' understanding and memory of nursing knowledge, improve learning efficiency, improve students' learning skills, and help develop students' autonomous learning ability.

Chang (2018) found that the implementation of problem-based learning (PBL) teaching mode in the courses of internal medicine nursing is mainly in the case-based and problem-based teaching mode, and the student-centered and teacher led learning form, which helps to improve students' ability to find, analyze and solve problems.

From the literature of the last five years, researchers have paid some attention to and studied the instructional model of integration of mind mapping and problem-based learning, and also confirmed the effectiveness of this new instructional model. However, the number of researches is very small, and the majors involved are mainly medical teaching, which shows that it has not been widely used in the teaching practice of other majors, and should be more widely studied in order to promote it.

Mind mapping and problem-based learning fully reflect the student-centered characteristics. It can not only promote students to analyze and solve problems, cultivate students' critical thinking, and build their own thinking knowledge system, but also cultivate students' sense of teamwork. At the same time, students draw colorful, vivid, and intuitive mind map, which greatly enriches classroom activities and improves students' learning fun.

The Effectiveness Monitoring of MMPBL Instructional Models

In recent years, researchers have affirmed the effectiveness of mind mapping and problem-based instructional model, and monitored its effectiveness through some research, indicating the extent of its effectiveness. These studies are as follows:

Sun, Zhang, Wang, Cheng, Huang, and Zhang (2021) found that the teaching method of mind mapping combined with problem-based learning (PBL) was applied to the infectious disease internship, and the control group used PBL teaching method to implement the internship, while the experimental group used mind mapping combined with PBL teaching method to implement the internship. The test results of the two groups were different. The theoretical knowledge and case analysis examination scores of the experimental group were higher than those of the control group, and the differences were statistically significant (all $P < 0.05$). Moreover, the evaluation scores of the experimental group in terms of clear organization, prominent key and difficult points, in-depth understanding of content, improved learning interest, improved ability to raise questions, improved clinical thinking ability, improved self-study ability, and improved learning efficiency were higher than those of the control group, and the differences were statistically significant (all $P < 0.05$). So, mind mapping combined with PBL teaching method is effective in infectious disease

probation, which is worth popularizing and applying.

Huang and Liang (2020) found that the teaching method of mind mapping combined with problem-based learning was applied to clinical nursing operation teaching, and the conventional teaching method was adopted in the control group, while the teaching method of mind mapping combined with problem-based learning was adopted in the experimental group. At the end of the semester, the students in the experimental group scored (92.42 ± 3.35) points in theoretical knowledge and (94.14 ± 2.88) points in practical operation, which were higher than (76.58 ± 2.24) points and (78.16 ± 1.97) points in the control group respectively, there was significant difference ($P < 0.05$). The total satisfaction rate of the experimental group was 92.31%, higher than 73.08% of the control group ($P < 0.05$). In clinical nursing operation teaching, the teaching method of mind mapping combined with problem-based learning can improve students' ability and thinking level, and improve teachers' teaching quality and teaching effect. The application effect is very ideal.

From the literature of the past five years, researchers have little monitoring on the effectiveness of mind mapping and problem-based learning and instructional model. So, researchers need to do more research to enrich this aspect. This also shows the importance and innovation of this thesis.

Chapter 3

Research Methodology

In the study of “Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students: A Case Study in Southwest Jiaotong University” used mixed method of research. This research is divided into 3 phases.

Phase 1 was conducted to answer research **objective 1**: to examine the factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan Province.

Phase 2 was conducted to answer research **objective 2**: to develop mind mapping and problem-based learning instructional model for ancient Chinese reading summarizing ability of undergraduate students in Southwest Jiaotong University.

Phase 3 was conducted to answer research **objective 3**: to study the result of mind mapping and problem-based learning instructional model on undergraduate students’ ancient Chinese reading summarizing ability.

The details are as follows:

Phase 1 Was conducted to answer research objective 1: To examine the factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan Province.

Population 1

Group 1: The students who formerly enroll the Ancient Chinese Course in semester 2 academic year 2021-2022 from 3 universities in Sichuan Province

60 students from Sichuan University

60 students from Southwest Minzu University

60 students from Southwest Jiaotong University.

Research Instrument

The questionnaire for students

Designing instrument 1 (The questionnaire for students)

1. Study principles and methods of ancient Chinese course and factors affecting ancient Chinese reading summarizing ability.

2. Design a questionnaire on internal and external factors to enhance ancient Chinese reading summarizing ability for the students in Southwest Jiaotong University. Internal and external factors, there are 3 Parts: Part 1 is about common data of the respondent, Part 2 Internal factors 16 numbers, external factors 20 numbers and Part 3 suggestion.

3. Present the draft of questionnaire to the advisors for checking correctness and completion.

4. Assess the validity of questionnaire on factors to enhance ancient Chinese reading summarizing ability for the students in Southwest Jiaotong University by 5 experts (List name from Appendix A) through Index of Item-Objective Congruence (IOC) according to the criteria shown below (Phongsri, 2008)

+1 = Sure that the contents are related to the topics

0 = Not sure that the contents are related to the topics

-1 = The contents are not Guangxi Province related to the topics

The acceptable items must have the IOC values not less than 0.5. The IOC calculated from the validation measure 0.889. And in the Part 2 of questionnaire, there are 4 items are deleted, which are less than 0.5. Details are in Table Appendix 1.

5. Design Likert 5-point rating scale questionnaire on the following score rating criteria. (Phongsri, 2008)

Score rating criteria

5 means strongly agree

4 means agree

3 means neutral

2 means disagree

1 means strongly disagree

Quality Validation

Using IOC by 5 experts to test the quality of questionnaire.

Data Collection

1. Ask for permission for data collection.
2. Collect data from the assigned students using the developed questionnaire.

Data Analysis

1. The factors affecting ancient Chinese reading summarizing ability obtained from the students are interpreted using MEAN interpretation criteria proposed by Phongsri (2008).

4.51-5.00 means the highest

3.51-4.50 means high

2.51-3.50 means moderate

1.51-2.50 means few

1.00-1.50 means the fewest

Descriptive Statistics i.e., Frequency, mean (μ) standard deviation (σ).

Group 2: The lecturers who have been teaching Ancient Chinese Course from 3 universities in Sichuan Province

2 lecturers from Sichuan University

2 lecturers from Southwest Minzu University

2 lecturers from Southwest Jiaotong University

Research instrument

The interview for the lecturers

Designing instrument 2 (The interview for the lecturers)

1. Study literature on ancient Chinese reading summarizing ability, improve of ancient Chinese reading summarizing ability, and factors affecting the enhancement of ancient Chinese reading summarizing ability for undergraduates.

2. Design the interview of 10 open-ended questions on factors affecting the enhancement of ancient Chinese reading summarizing ability for undergraduates.

3. Present the open-ended interview to the advisors for checking correctness and completion.

4. Assess the validity of open-end interview on factors affecting the enhancement of ancient Chinese reading summarizing ability for the undergraduates

in Southwest Jiaotong University by 5 experts (List name from Appendix A) through Item-Objective Congruence (IOC) according to the criteria as shown below (Phongsri, 2008):

+1 = Sure that the contents are related to the topics

0 = Not sure that the contents are related to the topics

-1 = Sure that the contents are not related to the topics

The acceptable items must have the IOC values not less than 0.5. The IOC calculated from the validation measure 1.00.

Data Collection

1. Ask for permission for data collection.
2. Collect data from the assigned lecturers using the developed interview.

Data Analysis

Content analysis

Output Phase 1

Obtain important information that is used as a basis for examine the internal factors and external factors to enhance ancient Chinese reading summarizing ability for undergraduate students in Sichuan Province from the former students and lecturers. And take the result to develop Mind Mapping and Problem-Based Learning Instructional Model.

Summary of phase 1 is shown by Table 3.1.

Table 3.1 Summary How to Conduct Research from Phase 1

Research process	Research objective 1	Conduct research	Target group	Instrument	Data analysis	Output
Phase 1	To examine the factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan Province.	<ol style="list-style-type: none"> 1. Study Principles and Methods of ancient Chinese course and factors. 2. Design a questionnaire on internal and external factors. 3. Present the questionnaire to the advisors for checking correctness and completion. 4. Assess the validity of questionnaire on factors by 5 experts through IOC 5. Design Likert 5-point rating scale questionnaire 	60 students from Sichuan University, 60 students from Southwest Minzu University, 60 students from Southwest Jiaotong University	The questionnaire for students	Using MEAN interpretation criteria proposed by Phongsri (2008).	Obtain important information that is used as a basis for examine the internal factors and external factors to enhance ancient Chinese reading summarizing ability for undergraduate students in Sichuan Province from the former students and lecturers. And take the result to develop Mind Mapping and Problem-Based Learning Instructional Model.
		<ol style="list-style-type: none"> 1. Study literature on ancient Chinese reading summarizing ability factors affecting it. 2. Design the interview of 10 open-ended questions on factors. 3. Present the open-ended interview to the advisors for checking correctness and completion. 4. Assess the validity of open-end interview on factors by 5 experts through IOC 	2 lecturers from Sichuan University, 2 lecturers from Southwest Minzu University, 2 lecturers from Southwest Jiaotong University	The interview for the lecturers	Content analysis	

Phase 2 was conducted to answer research objective 2: To develop mind mapping and problem-based learning instructional model for ancient Chinese reading summarizing ability of undergraduate students in Southwest Jiaotong University.

1. Designing instrument (the questionnaire for IOC)

1.1 Study related concepts, principles, process about developing instructional model, including results in terms of factors affecting undergraduate students' ancient Chinese reading summarizing ability from research objective 1.

1.2 Design handout of Mind Mapping and Problem-Based Learning Instructional Model. which consists of the stable teaching activities and procedures. Such a developed instructional model with 5 components: 1) Principle & Rationale, 2) Objectives, 3) Contents, 4) Methods of teaching & Materials and 5) Evaluation, is in 4 aspects: 1) Utility Standard, 2) Feasibility Standard, 3) Propriety Standard and 4) Accuracy Standard

1.3 Design a questionnaire on confirming the appropriateness of the instructional model in terms of accuracy standard, propriety standard, feasibility standard, and utility standard.

1.4 Present the questionnaire to the advisors for checking correctness and completion.

1.5 Assess the validity of the questionnaire on confirming the appropriateness of the instructional model by 5 experts (List name in Appendix A) through Item-Objective Congruence (IOC) according to the criteria as shown below (Phongsri, 2008):

1 = Sure that the contents are related to the topics

0 = Not sure that the contents are related to the topics

-1 = Sure that the contents are not related to the topics

The acceptable items must have the IOC values not less than 0.5. The IOC calculated from the validation measure 1.00.

2. Research instrument

Designing instrument about the questionnaire on confirming the instructional

2.1 Design a questionnaire on confirming the appropriateness of the instructional model in terms of accuracy standard, propriety standard, feasibility standard, and utility standard.

2.2 Present the draft of open-ended interview to the advisors for checking correctness and completion.

2.3 Assess the validity of the questionnaire on confirming the appropriateness of the instructional model by 5 experts (List name in Appendix A) through frequency and percentage.

Data Collection

1. Ask for permission of data collection
2. Collect appropriateness of the instructional model in terms of accuracy standard, propriety standard, feasibility standard, and utility standard from the 5 experts using the developed conformity assessment form of Mind Mapping and Problem-Based Learning Instructional Model.

Data Analysis

Descriptive analysis, i.e., frequency and percentage. The acceptable items must not be less than 100%.

Output Phase 2

The appropriateness of mind mapping and problem-based learning instructional model is confirmed by experts for further implementation.

Summary of phase 2 is shown by Table 3.2.

Table 3.2 Summary How to Conduct Research from Phase 2

Research process	Research objective 2	Conduct research	Target group	Instrument	Data analysis	Output
Phase 2	To develop mind mapping and problem-based learning instructional model for ancient Chinese reading summarizing ability of undergraduate students in Southwest Jiaotong University.	<ol style="list-style-type: none"> 1. Study related concepts, principles, process about developing instructional model, including results in terms of factors from research objective 1. 2. Design handout of MMPBL Instructional Model which consists of the stable teaching activities and procedures. 3. Design a questionnaire on confirming the appropriateness of the instructional model. 4. Present the questionnaire to the advisors for checking correctness and completion. 5. Assess the validity of the questionnaire on confirming the appropriateness of the instructional model by 5 experts through IOC 6. Design the conformity assessment form of MMPBL Instructional Model by assessment items form. 	the 5 experts (List name from Appendix A)	The questionnaire for the 5 experts	Descriptive analysis, i.e., frequency and percentage.	The appropriateness of Mind Mapping and Problem-Based Learning Instructional Model is confirmed by experts for further implementation

Phase 3 was conducted to answer research objective 3: To study the result of mind mapping and problem-based learning instructional model on undergraduate students' ancient Chinese reading summarizing ability.

Population

The total of 42 students from 2 classes with different levels of proficiency – beginner, intermediate, and advanced, who enroll in ancient Chinese course in Southwest Jiaotong University. in semester 2 academic year 2022-2023. Those sections involve the following

21 students in class 1

21 students in class 2

The Sample Group

The 21 students from class 1 who enroll in ancient Chinese course in Southwest Jiaotong University in semester 2 academic year 2022-2023 are obtained by cluster sampling.

Table 3.3 Research Design

T1	X	T2
Pre test	Mind mapping and problem-based learning instructional model	Post test

T1 means Pre-test

X means mind mapping and problem-based learning instructional model

T2 means Post-test

Research instruments

1. Lesson plans using Mind Mapping and Problem-Based Learning Instructional Model
2. Pretest and Posttest

Designing instrument 1 (Lesson Plans)

1. Study contents, objectives, methods of teaching, materials, evaluation, and learner assessment methods.

2. Design lesson plans, including learning objectives, contents, Steps to teach, learning materials, learning resources, evaluation & assessment, and note after teaching.

3. Present the lesson plan to the advisors for checking correctness, completion, and improvement.

4. Assess the validity of the designed lesson plans by 5 experts (List name from Appendix A) through Item-Objective Congruence (IOC) according to the criteria as shown below (Phongsri, 2008):

1 = Sure that the contents are related to the topics

0 = Not sure that the contents are related to the topics

-1 = Sure that the contents are not related to the topics

The acceptable items must have the IOC values not less than 0.5. The IOC calculated from the validation measure 1.00.

5. Conduct a try-out of the developed lessons plans with class 2 for further improvements and implementation with the sample group class 1.

Designing instrument 2 (Pretest and Posttest)

1. Study the testing objectives aligned with Mind Mapping and Problem-Based Learning Instructional Model

2. Design pretest and posttest. There are 4 tests, 48 multiple choices questions, with 12 in each test to check one objective of ancient Chinese reading summarizing ability separately. 1 score for each question.

3. Present the developed pretest and posttest to the advisors for checking correctness, completion, and improvement.

4. Assess the validity of the designed pretest and posttest by 5 experts (List name from Appendix A) through Item-Objective Congruence (IOC) according to the criteria as shown below (Phongsri, 2008):

- 1 = Sure that the question item is related to the objective
- 0 = Not sure that the question is related to the objective
- 1 = Sure that the question is related to the objective

The acceptable items must have the IOC values not less than 0.5. The IOC calculated from the validation measures 0.883. And in the pretest and posttest, there are 8 items are deleted, which are less than 0.5. And there are 40 multiple choices questions are kept, and 8 deleted. Details are in Table Appendix 5.

5. Conduct the designed pretest and posttest with class 2 for further improvements and implementation with the sample group class 1.

Data Collection

1. Ask for permission of data collection.
2. Collect students' learning outcomes by using pretest before the experiment.
3. Carry out the experiment.
4. Collect students' learning outcomes by using posttest after the experiment.

Data Analysis

Descriptive statistics – MEAN and standard deviation

Inferential statistics – Paired t-test for dependent samples

Relative Developmental Scores proposed by Kanjanawasee (2009) as shown below.

$$\text{Relative Developmental Scores} = \frac{\text{Posttest Scores} - \text{Pretest Scores}}{\text{Total Scores} - \text{Pretest Scores}} \times 100$$

The calculated scores from the formula above will be interpreted according to the criteria below.

Table 3.4 Criteria of Interpreting Learning Outcomes by Relative Developmental Scores

Relative Developmental Scores	Developmental Level
76 - 100	Very High
51 - 75	High
26 - 50	Moderate
0 - 25	Low

Output Phase 3 (Pretest-Posttest)

Results of implementing Mind Mapping and Problem-Based Learning Instructional Model – students' learning outcomes.

Summary of phase 3 is shown by Table 3.5.

Summary for Chapter 3

The development of mind mapping and problem-based learning instructional model is a relatively complex process, and the research phases can be show in Figure 3.1.

Table 3.5 Summary How to Conduct Research from Phase 3

Research process	Research objective 3	Conduct research	Target group	Instrument	Data analysis	Output
Phase 3	To study the result of mind mapping and problem-based learning instructional model on undergraduate students' ancient Chinese reading summarizing ability.	<ol style="list-style-type: none"> 1. Study contents, objectives, methods of teaching, materials, evaluation, and learner assessment methods. 2. Design lesson plans. 3. Present the lesson plan to the advisors for checking correctness, completion, and improvement. 4. Assess the validity of the designed lesson plans by 5 experts through IOC 5. Conduct a try-out of the developed lessons plans with class 2 for further improvements and implementation with the sample group class 1. 	The 21 students from class 1 who enroll in ancient Chinese course in Southwest Jiaotong University. in semester 2 academic year 2022-2023 are obtained by cluster sampling.	1. Lesson plans using Mind Mapping and Problem-Based Learning Instructional Model	Descriptive statistics – MEAN and standard deviation Inferential statistics – Paired t-test for dependent samples Relative Developmental Scores	The appropriateness of Mind Mapping and Problem-Based Learning Instructional Model is confirmed by experts for further implementation
		<ol style="list-style-type: none"> 1. Study the testing objectives aligned with Mind Mapping and Problem-Based Learning Instructional Model. 2. Design pretest and posttest. 3. Present the developed pretest and posttest to the advisors for checking correctness, completion, and improvement. 4. Assess the validity of the designed pretest and posttest by 5 experts through IOC. 5. Conduct the designed pretest and posttest with class 2 for further improvements and implementation with the sample group class 1. 		2. Pretest and Posttest		

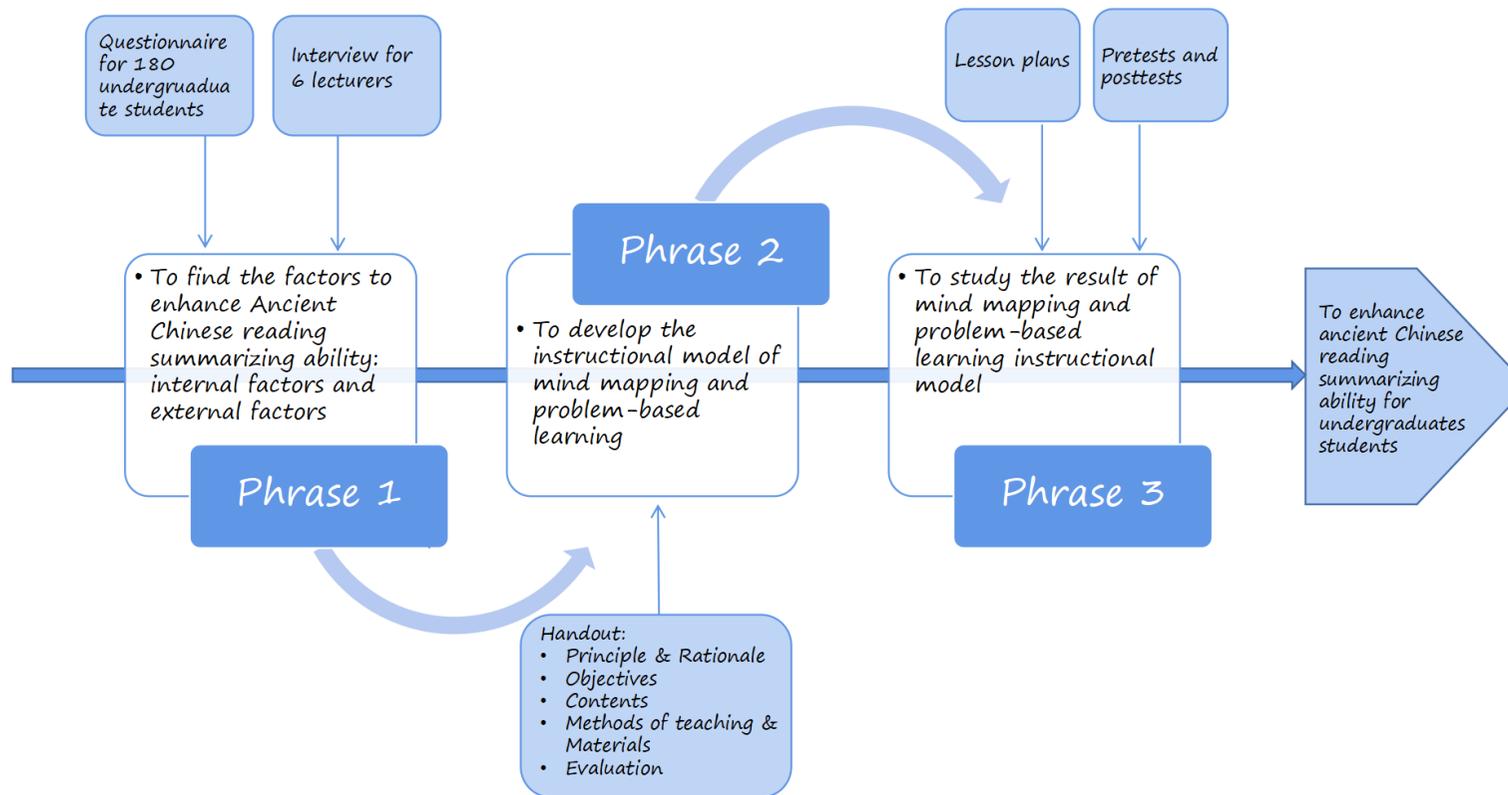


Figure 3.1 Development of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students

Chapter 4

Results of Analysis

In the study of “Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students: A Case Study in Southwest Jiaotong University”, the researcher studied the documents concerning the following.

Part 1: Analysis results serving objective 1–To study the factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan Province.

Part 2: Analysis results serving objective 2–To develop the instructional model of mind mapping and problem-based learning for ancient Chinese reading summarizing ability of undergraduate students in Southwest Jiaotong University.

Part 3: Analysis results serving objective 3–To examine the result of mind mapping and problem-based learning instructional model on undergraduate students’ ancient Chinese reading summarizing ability.

Data Analysis Results

Part 1: Analysis results serving objective 1–To study the factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan Province.

This section presents analysis results serving objective 1 using table and description in terms of MEAN, standard deviation, interpretation (Level of Attitude), and ranking of all factors in overview. After that, items of all factors are presented likewise.

The amount of students and universities

From 60 students, Sichuan University

From 60 students, Southwest Minzu University

From 60 students, Southwest Jiaotong University

In Chapter 3, each university planned to survey 60 students.

Table 4.1 Common data of the respondent in Overview

(N-180)

Data	Frequency	Percentage
Gender		
Male	38	21.11
Female	142	78.89
Total	180	100.00
Age		
A. 18 yrs.	8	4.44
B. 19yrs.	60	33.33
C. 20 yrs.	74	41.11
D. 21 yrs.	33	18.33
E. other ages	5	2.78
Total	180	100.00

From table 4.1 the common data of the respondent in overview shows that the most gender is female, representing 78.89 % of the total participants. The male respondents make up 21.11% of the total. The age distribution is relatively concentrated. The most age is 20 yrs., 41.11% of the respondents belong to this category.

Table 4.2 The result of questionnaire from students in overview.

(N-180)				
Factors	μ	σ	Interpretation	Ranking within All Factors
Internal factors (Respondents)				
No.1 Students think that ancient Chinese course is very important.	3.94	.82	High	17
No.2 Students think that learning ancient Chinese course is beneficial to their development.	3.61	.76	High	26
No.3. Students are very interested in learning ancient Chinese course.	3.73	.84	High	22
No.4 Students actively learn ancient Chinese reading summarizing ability.	3.78	.75	High	21
No.5 Students think that ancient Chinese reading summarizing ability is very useful.	4.15	.77	High	7
No.6 Students believe that the ancient Chinese course is moderately difficult.	3.49	.77	Moderate	27
No.7 Students believe that the learning objectives of ancient Chinese course are clear.	3.37	.75	Moderate	32
No.8 Students like the teacher of ancient Chinese course.	3.88	.78	High	18
No.9 Students think that the teacher can arrange the teaching steps well.	3.41	.99	Moderate	31
No.10 Students can actively follow the teacher's teaching steps.	3.14	.85	Moderate	33
No.11 Students can actively participate in classroom activities.	4.04	.75	High	11
No.12 Students have the spirit of seeking knowledge and exploration.	3.47	.74	Moderate	28
No.13 Students think the interaction between teachers and students is necessary.	4.18	.83	High	6

Table 4.2 (Continued)

				(N-180)
Factors	μ	σ	Interpretation	Ranking within All Factors
No.14 Students believe that friendly cooperation and interaction between students are necessary.	4.51	.66	The Highest	3
Total Average	3.76	.79	High	
External factors (Teachers, instructional model, and circumstances)				
No.15 The teacher's friendliness and teaching skills affect students' learning effect.	4.06	.73	High	10
No.16 The teacher can use modern teaching methods in the teaching process, not rigidly adhere to traditional teaching methods.	3.99	.79	High	15
No.17 The teacher is good at using modern information technology in the teaching process to improve students' interest in learning and expand their knowledge.	4.03	.78	High	12
No.18 The teacher emphasizes the active participation of students in the teaching process.	3.96	.80	High	16
No.19 The teacher pays attention to mutual communication and cooperation between students in the teaching process.	4.11	.73	High	8
No.20 It is very important for the teacher to objectively evaluate students' performance and learning effects.	3.83	.82	High	19
No.21 In evaluating students' grades, the teacher not only uses summative assessment method, but also use formative evaluation method.	3.67	.83	High	25

Table 4.2 (Continued)

				(N-180)
Factors	μ	σ	Interpretation	Ranking within All Factors
No.22 The teaching materials are of interest to students, and conducive to students' seeking more knowledge.	3.08	.85	Moderate	34
No.23 The teaching materials are challenging to some extent and can expands students' thinking.	3.42	.66	Moderate	30
No.24 The teaching method is lively and vivid, attracting students' attention through visual forms.	4.46	.59	High	4
No.25 Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students' information processing.	4.56	.56	The Highest	2
No.26 The proposal and resolution of problems can stimulate students' learning, thinking and discussion.	4.57	.56	The Highest	1
No.27 Classroom teaching steps are compact and orderly, balancing stress and relaxation to students.	3.82	.76	High	20
No.28 There are many classroom activities suitable for students to participate, emphasizing the students-centered conception.	4.00	.82	High	14
No.29 Classroom activities can promote discussion and communication among students and promote their sense of teamwork.	4.36	.68	High	5
No.30 Classroom activities are challenging to some extent and can fully mobilize students' subjective initiative.	4.09	.77	High	9

Table 4.2 (Continued)

(N-180)				
Factors	μ	σ	Interpretation	Ranking within All Factors
No.31 Teaching activities can fully display students' personalized learning outcomes and satisfy students' sense of learning achievement.	3.72	.84	High	23
No.32 The teaching environment allows students to relax without pressure.	3.43	.75	Moderate	29
No.33 The learning atmosphere among students is very friendly.	3.71	.77	High	24
No.34 The teaching atmosphere between the teacher and students is very friendly.	4.01	.79	High	13
Total Average	3.94	.74	High	

Table 4.2 Indicates that internal factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan Province overall found at high level ($\mu=3.76$). Considering only each item, it was found that **No.14** “Students believe that friendly cooperation and interaction between students are necessary” is the highest mean ($\mu= 4.51$), followed by **No.13** “Students think the interaction between teachers and students is necessary” ($\mu=4.18$) and the fewest mean is **No.10** “Students can actively follow the teacher's teaching steps” ($\mu=3.14$).

For external factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan Province overall found at high level ($\mu=3.94$). Considering only each item, it was found that **No.26** “The proposal and resolution of problems can stimulate students' learning, thinking and discussion” is the highest mean ($\mu= 4.57$), followed by **No.25** “Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students' information processing” ($\mu=4.56$) and the fewest mean is **No.22** “The teaching materials are of interest to students, and conducive to students' seeking more knowledge” ($\mu=3.08$).

Table 4.3 Common data of the respondent in Sichuan University.

(N-60)

Data	Frequency	Percentage
Gender		
A. Male	18	30.00
B. Female	42	70.00
Total	60	100.00
Age		
A. 18 yrs.	2	3.33
B. 19 yrs.	30	50.00
C. 20 yrs.	27	45.00
D. 21 yrs.	1	1.67
E. other ages	0	0.00
Total	60	100.00

From table 4.3 the common data of the respondent in Sichuan University shows that the most gender is female, 70.00 %. The most age is 19 yrs., 50.00 %

Table 4.4 The result of questionnaire from students in Sichuan University.

(N-60)

Factors	μ	σ	Interpretation	Ranking within All Factors
Internal factors (Respondents)				
No.1 Students think that ancient Chinese course is very important.	3.63	.58	High	19
No.2 Students think that learning ancient Chinese course is beneficial to their development.	3.32	.68	Moderate	31
No.3. Students are very interested in learning ancient Chinese course.	3.40	.67	Moderate	29
No.4 Students actively learn ancient Chinese reading summarizing ability.	3.48	.68	Moderate	20
No.5 Students think that ancient Chinese reading summarizing ability is very useful.	4.50	.60	High	6

Table 4.4 (Continued)

(N-60)				
Factors	μ	σ	Interpretation	Ranking within All Factors
No.6 Students believe that the ancient Chinese course is moderately difficult.	3.23	.47	Moderate	34
No.7 Students believe that the learning objectives of ancient Chinese course are clear.	3.32	.54	Moderate	32
No.8 Students like the teacher of ancient Chinese course.	3.87	.72	High	10
No.9 Students think that the teacher can arrange the teaching steps well.	3.68	.75	High	15
No.10 Students can actively follow the teacher's teaching steps.	3.48	.62	Moderate	25
No.11 Students can actively participate in classroom activities.	3.88	.67	High	9
No.12 Students have the spirit of seeking knowledge and exploration.	3.43	.657	Moderate	28
No.13 Students think the interaction between teachers and students is necessary.	4.18	.95	High	7
No.14 Students believe that friendly cooperation and interaction between students are necessary.	4.72	.45	The Highest	1
Total Average	3.72	.64	High	
External factors (teachers, instructional model, and circumstances)				
No.15 The teacher's friendliness and teaching skills affect students' learning effect.	3.83	.74	High	11
No.16 The teacher can use modern teaching methods in the teaching process, not rigidly adhere to traditional teaching methods.	3.72	.74	High	14

Table 4.4 (Continued)

					(N-60)
Factors	μ	σ	Interpretation	Ranking within All Factors	
No.17 The teacher is good at using modern information technology in the teaching process to improve students' interest in learning and expand their knowledge.	3.47	.65	Moderate	27	
No.18 The teacher emphasizes the active participation of students in the teaching process.	3.48	.62	Moderate	24	
No.19 The teacher pays attention to mutual communication and cooperation between students in the teaching process.	3.75	.65	High	13	
No.20 It is very important for the teacher to objectively evaluate students' performance and learning effects.	3.48	.57	Moderate	23	
No.21 In evaluating students' grades, the teacher not only uses summative assessment method, but also use formative evaluation method.	3.47	.60	Moderate	26	
No.22 The teaching materials are of interest to students, and conducive to students' seeking more knowledge.	3.30	.56	Moderate	33	
No.23 The teaching materials are challenging to some extent and can expands students' thinking.	3.32	.50	Moderate	30	
No.24 The teaching method is lively and vivid, attracting students' attention through visual forms.	4.52	.57	The Highest	4	
No.25 Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students' information processing.	4.62	.56	The Highest	3	

Table 4.4 (Continued)

					(N-60)
Factors	μ	σ	Interpretation	Ranking within All Factors	
No.26 The proposal and resolution of problems can stimulate students' learning, thinking and discussion.	4.67	.54	The Highest	2	
No.27 Classroom teaching steps are compact and orderly, balancing stress and relaxation to students.	3.67	.60	High	17	
No.28 There are many classroom activities suitable for students to participate, emphasizing the students-centered conception.	3.75	.77	High	12	
No.29 Classroom activities can promote discussion and communication among students and promote their sense of teamwork.	4.50	.50	High	5	
No.30 Classroom activities are challenging to some extent and can fully mobilize students' subjective initiative.	3.92	.70	High	8	
No.31 Teaching activities can fully display students' personalized learning outcomes and satisfy students' sense of learning achievement.	3.68	.73	High	16	
No.32 The teaching environment allows students to relax without pressure.	3.48	.73	Moderate	22	
No.33 The learning atmosphere among students is very friendly.	3.48	.60	Moderate	21	
No.34 The teaching atmosphere between the teacher and students is very friendly.	3.63	.78	High	18	
Total Average	3.79	.64	High		

Table 4.4 Indicates that internal factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan University found at high level ($\mu=3.72$). Considering only each item, it was found that **No.14** “Students believe that friendly cooperation and interaction between students are necessary” is **the highest mean** ($\mu= 4.72$), followed by **No.5** “Students think that ancient Chinese reading summarizing ability is very useful” ($\mu=4.50$) and the fewest mean is **No.6** “Students believe that the ancient Chinese course is moderately difficult” ($\mu=3.23$).

For external factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan University found at high level ($\mu=3.79$). Considering only each item, it was found that **No.26** “The proposal and resolution of problems can stimulate students' learning, thinking and discussion” is **the highest mean** ($\mu= 4.67$), followed by **No.25** “Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students' information processing” ($\mu=4.62$) and the fewest mean is **No.22** “The teaching materials are of interest to students, and conducive to students' seeking more knowledge” ($\mu=3.30$).

Table 4.5 Common data of the respondent in Southwest Minzu University.

(N-60)

Data	Frequency	Percentage
Gender		
A. Male	9	15.00
B. Female	51	85.00
Total	60	100.00
Age		
A. 18 yrs.	0	0.00
B. 19 yrs.	13	21.67
C. 20 yrs.	30	50.00
D. 21 yrs.	14	23.33
E. other ages	3	5.00
Total	60	100.00

From Table 4.5 the common data of the respondent in Southwest Minzu University shows that the most gender is female, 85.00 %. The most age is 20 yrs., 50.00 %

Table 4.6 The result of questionnaire from students in Southwest Minzu University.

(N-60)				
Factors	μ	σ	Interpretation	Ranking within All Factors
Internal factors (respondents)				
No.1 Students think that ancient Chinese course is very important.	4.47	.791	High	6
No.2 Students think that learning ancient Chinese course is beneficial to their development.	3.92	.787	High	25
No.3. Students are very interested in learning ancient Chinese course.	3.92	.809	High	24
No.4 Students actively learn ancient Chinese reading summarizing ability.	4.03	.758	High	22
No.5 Students think that ancient Chinese reading summarizing ability is very useful.	4.23	.745	High	16
No.6 Students believe that the ancient Chinese course is moderately difficult.	3.47	.812	Moderate	31
No.7 Students believe that the learning objectives of ancient Chinese course are clear.	3.42	.907	Moderate	34
No.8 Students like the teacher of ancient Chinese course.	4.28	.846	High	13
No.9 Students think that the teacher can arrange the teaching steps well.	4.05	.83	High	21
No.10 Students can actively follow the teacher's teaching steps.	3.48	.81	Moderate	27
No.11 Students can actively participate in classroom activities.	4.22	.72	High	17
No.12 Students have the spirit of seeking knowledge and exploration.	3.48	.75	Moderate	28
No.13 Students think the interaction between teachers and students is necessary.	4.33	.75	High	10

Table 4.6 (Continued)

				(N-60)
Factors	μ	σ	Interpretation	Ranking within All Factors
No.14 Students believe that friendly cooperation and interaction between students are necessary.	4.28	.83	High	12
Total Average	3.97	.80	High	
External factors (teacher, instructional model, and circumstance)				
No.15 The teacher's friendliness and teaching skills affect students' learning effect.	4.33	.75	High	9
No.16 The teacher can use modern teaching methods in the teaching process, not rigidly adhere to traditional teaching methods.	4.28	.80	High	14
No.17 The teacher is good at using modern information technology in the teaching process to improve students' interest in learning and expand their knowledge.	4.50	.60	High	5
No.18 The teacher emphasizes the active participation of students in the teaching process.	4.32	.73	High	11
No.19 The teacher pays attention to mutual communication and cooperation between students in the teaching process.	4.35	.69	High	8
No.20 It is very important for the teacher to objectively evaluate students' performance and learning effects.	4.52	.65	The Highest	4
No.21 In evaluating students' grades, the teacher not only uses summative assessment method, but also use formative evaluation method.	4.13	.79	High	20

Table 4.6 (Continued)

					(N-60)
Factors	μ	σ	Interpretation	Ranking within All Factors	
No.22 The teaching materials are of interest to students, and conducive to students' seeking more knowledge.	3.47	.91	Moderate	32	
No.23 The teaching materials are challenging to some extent and can expands students' thinking.	3.48	.77	Moderate	29	
No.24 The teaching method is lively and vivid, attracting students' attention through visual forms.	4.37	.69	High	7	
No.25 Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students' information processing.	4.52	.60	The Highest	2	
No.26 The proposal and resolution of problems can stimulate students' learning, thinking and discussion.	4.52	.62	The Highest	3	
No.27 Classroom teaching steps are compact and orderly, balancing stress and relaxation to students.	3.97	.88	High	23	
No.28 There are many classroom activities suitable for students to participate, emphasizing the students-centered conception.	4.17	.89	High	18	
No.29 Classroom activities can promote discussion and communication among students and promote their sense of teamwork.	4.17	.83	High	19	
No.30 Classroom activities are challenging to some extent and can fully mobilize students' subjective initiative.	3.85	.86	High	26	

Table 4.6 (Continued)

				(N-60)
Factors	μ	σ	Interpretation	Ranking within All Factors
No.31 Teaching activities can fully display students' personalized learning outcomes and satisfy students' sense of learning achievement.	3.45	.95	High	15
No.32 The teaching environment allows students to relax without pressure.	3.47	.77	Moderate	30
No.33 The learning atmosphere among students is very friendly.	4.25	.79	High	15
No.34 The teaching atmosphere between the teacher and students is very friendly.	4.53	.60	The Highest	1
Total Average	4.13	.76	High	

Table 4.6 Indicates that internal factors affecting ancient Chinese reading summarizing ability of undergraduate students in Southwest Minzu University found at high level ($\mu=3.97$). Considering only each item, it was found that **No.1** “Students think that ancient Chinese course is very important” is the highest mean ($\mu= 4.47$), followed by **No.13** “Students think the interaction between teachers and students is necessary” ($\mu=4.33$) and the fewest mean is **No.7** “Students believe that the learning objectives of ancient Chinese course are clear” ($\mu=3.42$).

For external factors affecting ancient Chinese reading summarizing ability of undergraduate students in Southwest Minzu University found at high level ($\mu=4.13$). Considering only each item, it was found that **No.34** “The teaching atmosphere between the teacher and students is very friendly” is the highest mean ($\mu= 4.53$), followed by **No.20** “It is very important for the teacher to objectively evaluate students' performance and learning effects” ($\mu=4.52$), **No.25** “Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students' information processing” ($\mu=4.52$), and **No.26** “The proposal and resolution of problems can stimulate students' learning, thinking and discussion” ($\mu=4.52$), and the fewest mean is **No.31** “Teaching activities can fully display students'

personalized learning outcomes and satisfy students' sense of learning achievement” ($\mu=3.45$).

Table 4.7 Common data of the respondent in Southwest Jiaotong University.

(N-60)

Data	Frequency	Percentage
Gender		
A. Male	11	18.33
B. Female	49	81.67
Total	60	100.00
Age		
A. 18 yrs.	6	10.00
B. 19 yrs.	17	28.33
C. 20 yrs.	17	28.33
D. 21 yrs.	18	30.00
E. other ages	2	3.33
Total	60	100.00

From Table 4.7 the common data of the respondent in C. Southwest Jiaotong University, the most gender is female, 81.67 %. The most age is 21 yrs., 30.00 %

Table 4.8 The result of questionnaire from students in Southwest Jiaotong University.

(N-60)

Factors	μ	σ	Interpretation	Ranking within All Factors
Internal factors (respondents)				
No.1 Students think that ancient Chinese course is very important.	3.73	.82	High	21
No.2 Students think that learning ancient Chinese course is beneficial to their development.	3.58	.70	High	23
No.3. Students are very interested in learning ancient Chinese course.	3.88	.94	High	16

Table 4.8 (Continued)

				(N-60)	
Factors	μ	σ	Interpretation	Ranking within All Factors	
No.4 Students actively learn ancient Chinese reading summarizing ability.	3.83	.72	High	19	
No.5 Students think that ancient Chinese reading summarizing ability is very useful.	3.72	.76	High	22	
No.6 Students believe that the ancient Chinese course is moderately difficult.	3.78	.87	High	20	
No.7 Students believe that the learning objectives of ancient Chinese course are clear.	3.37	.78	Moderate	30	
No.8 Students like the teacher of ancient Chinese course.	3.48	.54	Moderate	25	
No.9 Students think that the teacher can arrange the teaching steps well.	2.48	.62	Low	33	
No.10 Students can actively follow the teacher's teaching steps.	2.47	.67	Low	34	
No.11 Students can actively participate in classroom activities.	4.03	.84	High	12	
No.12 Students have the spirit of seeking knowledge and exploration.	3.48	.81	Moderate	26	
No.13 Students think the interaction between teachers and students is necessary.	4.03	.76	High	11	
No.14 Students believe that friendly cooperation and interaction between students are necessary.	4.52	.57	The Highest	2	
Total Average		3.60	.74	High	
External factors (teacher, instructional model, and circumstance)					
No.15 The teacher's friendliness and teaching skills affect students' learning effect.	4.02	.62	High	15	

Table 4.8 (Continued)

					(N-60)
Factors	μ	σ	Interpretation	Ranking within All Factors	
No.16 The teacher can use modern teaching methods in the teaching process, not rigidly adhere to traditional teaching methods.	3.98	.75	High	15	
No.17 The teacher is good at using modern information technology in the teaching process to improve students' interest in learning and expand their knowledge.	4.13	.72	High	8	
No.18 The teacher emphasizes the active participation of students in the teaching process.	4.08	.81	High	10	
No.19 The teacher pays attention to mutual communication and cooperation between students in the teaching process.	4.23	.72	High	7	
No.20 It is very important for the teacher to objectively evaluate students' performance and learning effects.	3.48	.75	Moderate	24	
No.21 In evaluating students' grades, the teacher not only uses summative assessment method, but also use formative evaluation method.	3.42	.89	Moderate	28	
No.22 The teaching materials are of interest to students, and conducive to students' seeking more knowledge.	2.48	.68	Low	32	
No.23 The teaching materials are challenging to some extent and can expands students' thinking.	3.47	.68	Moderate	27	
No.24 The teaching method is lively and vivid, attracting students' attention through visual forms.	4.50	.50	High	5	

Table 4.8 (Continued)

				(N-60)
Factors	μ	σ	Interpretation	Ranking within All Factors
No.25 Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students' information processing.	4.53	.54	The Highest	1
No.26 The proposal and resolution of problems can stimulate students' learning, thinking and discussion.	4.52	.50	The Highest	4
No.27 Classroom teaching steps are compact and orderly, balancing stress and relaxation to students.	3.83	.74	High	18
No.28 There are many classroom activities suitable for students to participate, emphasizing the students-centered conception.	4.08	.74	High	9
No.29 Classroom activities can promote discussion and communication among students and promote their sense of teamwork.	4.42	.62	High	6
No.30 Classroom activities are challenging to some extent and can fully mobilize students' subjective initiative.	4.52	.54	The Highest	3
No.31 Teaching activities can fully display students' personalized learning outcomes and satisfy students' sense of learning achievement.	4.02	.75	High	13
No.32 The teaching environment allows students to relax without pressure.	3.35	.76	Moderate	32
No.33 The learning atmosphere among students is very friendly.	3.38	.67	Moderate	29
No.34 The teaching atmosphere between the teacher and students is very friendly.	3.87	.72	High	17
Total Average	3.90	.69	High	

Table 4.8 Indicates that internal factors affecting ancient Chinese reading summarizing ability of undergraduate students in Southwest Jiaotong University found at high level ($\mu=3.60$). Considering only each item, it was found that **No.14** “Students believe that friendly cooperation and interaction between students are necessary” is the highest mean ($\mu= 4.52$), followed by **No.11** “Students can actively participate in classroom activities” ($\mu=4.03$) and the fewest mean is **No.10** “Students can actively follow the teacher's teaching steps” ($\mu=2.47$).

For external factors affecting ancient Chinese reading summarizing ability of undergraduate students in Southwest Jiaotong University found at high level ($\mu=3.90$). Considering only each item, it was found that **No.25** “Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students’ information processing” is the highest mean ($\mu= 4.53$), followed by **No.26** “The proposal and resolution of problems can stimulate students' learning, thinking and discussion” ($\mu=4.52$) and **No.30** “Classroom activities are challenging to some extent and can fully mobilize students' subjective initiative” ($\mu=4.52$), and the fewest mean is **No.22** “The teaching materials are of interest to students, and conducive to students' seeking more knowledge” ($\mu=2.48$).

The Lecturers Interview analysis results:

The amount of lecturers and universities.

From 2 lecturers, Sichuan University

From 2 lecturers, Southwest Minzu University

From 2 lecturers, Southwest Jiaotong University

Table 4.9 Common data of the respondents in Sichuan Province.

Data	Frequency	Percentage
(N-6)		
Gender		
A. Male	3	50.00
B. Female	3	50.00
Total	6	100.00

Table 4.9 (Continued)

(N-6)		
Data	Frequency	Percentage
Experience teaching		
below 3 yrs.	0	0.00
3-6 yrs.	1	16.67
7- 10 yrs.	2	33.33
C. over 10 yrs.	3	50.00
Total	6	100.00
Age		
A. below 30 yrs.	0	0.00
B. 30-40 yrs.	2	33.33
C. 41-50 yrs.	4	66.67
D. over 50 yrs.	0	0.00
Total	6	100.00

From Table 4.9, the common data of the respondents in Sichuan Province shows that the gender ratio of male and female is the same, making up 50.00% of the sample, the most experience teaching is over 10 yrs., making up 50% of the sample, and the most age is 41-50 yrs., making up 66.67% of the sample.

Table 4.10 The result of questions from 6 lecturers from Sichuan University, Southwest Minzu University, and Southwest Jiaotong University

Questions	Interpretation
No.1 Why do you accept or select to teach ancient Chinese course? (Example, like teaching this course, excel in teaching this course, be required to teach, or for other reasons).	One lecturer from Sichuan University has been studying ancient Chinese, while another teacher from Sichuan University is arranged to teach, but he personally enjoys ancient Chinese and have a lot of knowledge about it. Both lecturers from Southwest Minzu University studied this major and have been teaching ancient Chinese course for many years. One teacher from Southwest Jiaotong University has been engaged in linguistics teaching and research for many years, while another teacher from Southwest Jiaotong

Table 4.10 (Continued)

Questions	Interpretation
	<p>University has been arranged to teach, but she personally enjoys ancient Chinese and have a lot of knowledge about it.</p>
<p>No.2 Please talk about the students' performance in learning ancient Chinese courses? How do students evaluate your course?</p>	<p>Two lecturers from Sichuan University stated that students can basically understand the course and work hard, but they do not like to discuss actively in class. Two lecturers from Southwest Minzu University stated that students find the course difficult and can barely keep up with the teacher's schedule, resulting in a lack of activity in the classroom. Two lecturers from Southwest Jiaotong University stated that their students study very hard, but most students find the course difficult, while a small number of students find it challenging but interesting.</p>
<p>No.3 Please talk about the necessity and importance of students' ancient Chinese reading summarizing ability in the course.</p>	<p>Six lecturers from three universities all stated that the ancient Chinese reading summarizing ability is essential and important, which is one of the goals of the ancient Chinese curriculum. Learning ancient Chinese requires students to be able to read a large amount of ancient literature and quickly and accurately grasp the content of the literature.</p>
<p>No.4 What kind of teaching aspects do you think can enhance students' ancient Chinese reading summarizing ability? (Example, teaching objectives, teaching content, teaching materials, teaching method, teaching tools, teaching steps and activities, etc.)</p>	<p>Two lecturers from Sichuan University and two teachers from Southwest Minzu University stated that due to the limited number of class hours in the course, they mainly focus on learning theoretical knowledge of ancient Chinese, including phonetics, grammar, and philology, and there is not much time for reading practice in the classroom, so students can only read after class, which is quite regrettable. Two teachers from Southwest Jiaotong University stated that due to the relatively large number of class hours, specialized ancient Chinese reading learning and practice is conducted in the classroom. They also stated that if conditions permit, some improvements can be made in teaching methods.</p>

Table 4.10 (Continued)

Questions	Interpretation
<p>No.5 What is your opinion on increasing opportunities and time for students to participate in discussions and group activities in the classroom? What kind of classroom arrangement do you think can help improve students' classroom participation and activity?</p>	<p>Six lecturers from three universities all stated that increasing the opportunities and time for students to participate in discussions and group activities in the classroom is very good, reflecting a student-centered approach and helping to improve students' classroom participation and activity. However, two lecturers from Sichuan University and one from Southwest Minzu University stated that due to tight classroom time, there are not many opportunities for students to engage in classroom discussions, which is regrettable. And two lecturers from Southwest Jiaotong University often organize group discussion activities to give students the opportunity to express themselves.</p>
<p>No.6 What teaching methods do you think can stimulate students' thinking and exploration of knowledge?</p>	<p>One lecturer from Sichuan University, two lecturers from Southwest Minzu University, and one teacher from Southwest Jiaotong University stated that raising questions in the classroom can stimulate students' thinking. A teacher from Sichuan University stated that giving students some pre class and post class thinking questions helps them think and explore knowledge. A lecturer from Southwest Jiaotong University said that group discussion was conducive to the collision of students' thoughts and stimulated them to think and explore knowledge.</p>
<p>No.7 What kind of teaching activities do you think can fully showcase students' learning achievements and satisfy their sense of academic achievement?</p>	<p>Two lecturers from Sichuan University, one from Southwest Minzu University, and two from Southwest Jiaotong University stated that students should be given the opportunity to showcase their learning achievements, such as classroom presentations and poster displays. A lecturer from Southwest Jiaotong University also stated that these methods can not only showcase achievements and satisfy students' sense of academic achievement, but also enable students to exercise the process from knowledge input, to knowledge organization, internalization, and</p>

Table 4.10 (Continued)

	Questions	Interpretation
		finally to knowledge output. At the same time, when evaluating grades, attention should be paid to these non-exam results.
No.8	What is your understanding of PBL (Problem-Based Learning)? What is your opinion on applying PBL (Problem-Based Learning) to ancient Chinese course to enhance students' reading summarizing ability?	Six lecturers from three universities all stated that PBL is a good teaching method that allows students to raise, explore, and solve problems, demonstrating a student-centered approach. They said PBL can promote not only communication and cooperation among students, but also their thinking and participation in the classroom. So, try teaching ancient Chinese with PBL. A lecturer from Southwest Jiaotong University stated that PBL can be applied to almost all courses, and many literatures has proven it.
No.9	What is your understanding of Mind Mapping? What is your opinion on applying Mind Mapping to ancient Chinese course to enhance students' reading summarizing ability?	Six lecturers from three universities all stated that mind maps have clear, vivid, and intuitive characteristics, and the use of mind maps by teachers can be more conducive to students' understanding and mastery of knowledge. It's a good try to apply mind maps to ancient Chinese course. A lecturer from Sichuan University and a lecturer from Southwest Jiaotong University also stated that having students create mind maps can help them deepen their understanding of knowledge points and organize and grasp the knowledge system. However, a lecture from Southwest Minzu University worries that mind map can not be used in every lesson of ancient Chinese course.
No.10	What is your opinion on integrating Mind Mapping with Problem-Based Learning (PBL) to teach ancient Chinese course and enhance students' reading summarizing ability? How do you think its feasibility and	Six lecturers from three universities all stated that combining mind mapping with problem-based learning (PBL) is a relatively innovative teaching model, which is worthy trying and is likely to achieve good results in improving students' reading summarizing ability in ancient Chinese course. However, a lecturer from Sichuan University and a teacher from Southwest Jiaotong University believe that this innovative teaching model requires high requirements and

Table 4.10 (Continued)

Questions	Interpretation
effectiveness will be?	challenges for lecturers, and requires sufficient preparation, as well as classroom observation and management.

From Table 4.10 the result of questions from 6 lecturers from Sichuan University, Southwest Minzu University, and Southwest Jiaotong University found that:

No. 1 Most lecturers study ancient Chinese major, while a small number of lecturers study language related majors with a background in ancient Chinese knowledge and enjoy this course.

No. 2 Most lecturers believe that students work hard in their studies, but they think that the ancient Chinese course is difficult and not active in class.

No. 3 All lecturers think ancient Chinese reading summarizing ability is essential and important.

No. 4 Most lecturers mainly let students to read after class due to class time limitations. Although a small number of teachers teach ancient Chinese reading in the classroom, their teaching methods need to be improved.

No. 5 Most lecturers believe that increasing the opportunities and time for students to participate in discussions and group activities in the classroom is good, such as group discussion, etc.

No. 6 The lecturers think many methods can stimulate students' thinking and exploration of knowledge, such as questions in class, pre class and post class thinking questions, or group discussion.

No. 7 Some lecturers believe that classroom presentations, poster displays, and other methods are good ways to showcase students' learning outcomes, satisfy their sense of academic achievement, and pay attention to process evaluation.

No. 8 All lecturers think PBL is a good teaching method and it's a good try to teach ancient Chinese course with it.

No. 9 All lecturers think mind map is a clear, vivid, and intuitive way to teach and learn, and most lecturers believe it's a good try to apply mind map in ancient Chinese teaching.

No. 10 All lecturers think it's an innovative teaching model combining mind mapping with problem-based learning (PBL), and it's a good try to teach ancient Chinese with the new model, though some lecturers believe it's a challenge.

Results of Questionnaire and Interview

After analyzing data collected from both groups of informants, the researcher synthesizes those factors dividing them into 2 main types – internal and external factors as shown in Table 4.11 below.

Table 4.11 Summary of factors affecting ancient Chinese reading summarizing ability in Sichuan Province

Students' Opinion		Lecturers' Opinion		Synthesized Opinion	
Internal Factors	External Factors	Internal Factors	External Factors	Internal Factors	External Factors
1) Students believe that friendly cooperation and interaction between students are necessary.	1) The proposal and resolution of problems can stimulate students' learning, thinking and discussion.	1) Students work hard in their studies	1) Teachers are proficiency and enjoying this course.	Physical: 1) Students are working hard in this course.	Teacher: 1) Teachers are highly knowledgeable and willing to improve teaching methods and skills.
2) Students think the interaction between teachers and students is necessary.	2) Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students' information processing.	2) Students should be more active in class.	2) Teachers have the sense of trying some new teaching methods and improving teaching skills.	2) Students are actively participating in class.	Teaching methods: 2) Graphic and textual manner in class are helpful for analyzing the structure of the articles.

Table 4.11 (Continued)

Students' Opinion		Lecturers' Opinion		Synthesized Opinion	
Internal Factors	External Factors	Internal Factors	External Factors	Internal Factors	External Factors
3) Students think that ancient Chinese reading summarizing ability is very useful.	3) The teaching method is lively and vivid, attracting students' attention through visual forms.	3) Ancient Chinese reading summarizing ability is essential and important.	3) More questions and group discussion in class can stimulate students' thinking and exploration of knowledge.	<u>Psychological:</u> 3) Students know the importance of the ancient Chinese course.	3) The proposal and resolution of problems in class can stimulate students' learning, thinking and discussion.
4) Students can actively participate in classroom activities.	4) Classroom activities can promote discussion and communication among students and promote their sense of teamwork.		4) More opportunities and time should be provided for students to participate in discussions and group activities.	4) Students know the usefulness of ancient Chinese reading summarizing ability.	4) More discussion, communication, and group work should be carried out in class.

Table 4.11 (Continued)

Students' Opinion		Lecturers' Opinion		Synthesized Opinion	
Internal Factors	External Factors	Internal Factors	External Factors	Internal Factors	External Factors
5) Students think that ancient Chinese course is very important.	5) The teacher pays attention to mutual communication and cooperation between students in the teaching process.		5) Classroom presentations, poster displays, and other methods are good ways to showcase students' learning outcomes.	5) Students are willing to cooperate and interact with others.	Evaluation: 5) Both process evaluation and summative evaluation are used to grade students.

Table 4.11 indicates that there are 5 internal factors and 5 external factors taking an important role in enhancing ancient Chinese reading summarizing ability according to students' opinion while lecturers provide 4 internal factors and 5 external factors.

After synthesizing data from both group of informants, the internal factors to support enhancing ancient Chinese reading summarizing ability include 1) students' working hard in this course, 2) students' actively participating in classroom, 3) students' knowing the importance of the course, 4) students' knowing the usefulness of ancient Chinese reading summarizing ability, and 5) students' will to cooperate and interact with others. As for the external factors, they refer to 1) teachers' being lively and highly knowledgeable with teaching skills, 2) graphic and textual manner in class to analyzing the structure of the articles, 3) the proposal and resolution of problems in class to stimulating students' learning, thinking and discussion, 4) more discussion, communication, and group work being carried out in class, and 5) both process evaluation and summative evaluation to grade students.

Part 2: Analysis results serving Objective 2 – to develop mind mapping and problem-based learning instructional model for ancient Chinese reading summarizing ability of undergraduate students in Southwest Jiaotong University.

To serve objective 2, the collected data of confirming the appropriateness of 5 components of instructional model are analyzed in 4 areas, i.e., utility, feasibility, propriety, and accuracy and presented by frequency and percentage of the specialists as shown in Table 4.12 and description below.

Table 4.12 Frequency and percentage of confirmability of utility, feasibility, propriety, and accuracy of the instructional model components in 5 areas by specialists

No.	Components of Mind Mapping and Problem-Based Learning Instructional Model for Ancient Chinese Reading Summarizing Ability	Opinion of the Specialists															
		Utility				Feasibility				Propriety				Accuracy			
		Agree		Disagree		Agree		Disagree		Agree		Disagree		Agree		Disagree	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1	Principle and Rationale	5	100	-	-	5	100	-	-	5	100	-	-	5	100	-	-
2	Objectives	5	100	-	-	5	100	-	-	5	100	-	-	5	100	-	-
3	Contents	5	100	-	-	5	100	-	-	5	100	-	-	5	100	-	-
4	Methods of Teaching & Materials	5	100	-	-	5	100	-	-	5	100	-	-	5	100	-	-
5	Evaluation	5	100	-	-	5	100	-	-	5	100	-	-	5	100	-	-

From Table 4.12 the confirmability of each component of the instructional model by 5 specialists 100 % all.

Principle and Rationale

The utility of principle and rationale of the instructional model is confirmed to be appropriate by 5 specialists or 100% of all specialists; feasibility by 5 specialists or 100% of all specialists; propriety by 5 specialists or 100% of all specialists; and accuracy by 5 specialists or 100% of all specialists.

Objectives

The objectives of principle and rationale of the instructional model is confirmed to be appropriate by 5 specialists or 100% of all specialists; feasibility by 5 specialists or 100% of all specialists; propriety by 5 specialists or 100% of all specialists; and accuracy by 5 specialists or 100% of all specialists.

Contents

The contents of principle and rationale of the instructional model is confirmed to be appropriate by 5 specialists or 100% of all specialists; feasibility by 5 specialists or 100% of all specialists; propriety by 5 specialists or 100% of all specialists; and accuracy by 5 specialists or 100% of all specialists.

Methods of Teaching & Materials

The methods of teaching & materials of principle and rationale of the instructional model is confirmed to be appropriate by 5 specialists or 100% of all specialists; feasibility by 5 specialists or 100% of all specialists; propriety by 5 specialists or 100% of all specialists; and accuracy by 5 specialists or 100% of all specialists.

Evaluation

The evaluation of teaching & materials of principle and rationale of the instructional model is confirmed to be appropriate by 5 specialists or 100% of all specialists; feasibility by 5 specialists or 100% of all specialists; propriety by 5 specialists or 100% of all specialists; and accuracy by 5 specialists or 100% of all specialists.

Part 3: Analysis results serving objective 3—To study the result of mind mapping and problem-based learning instructional model for ancient Chinese reading summarizing ability (Pretest-Posttest).

Objective 3 analysis results are presented in 2 ways in this section: (1) comparing students' ancient Chinese reading summarizing ability between before and after the experiment using *t*-test for one-sample group which provide significant difference between prior and after learning outcomes and (2) reporting individual relative developmental score (gained score) according to developmental rate as specified in chapter 3 with table and figure.

Table 4.13 Overall comparison between students' ancient Chinese reading summarizing ability of total 4 dimensions before and after learning through mind mapping and problem-based learning instructional model

Total Score of Total 4 Dimensions	n	\bar{x}	S.D.	<i>t</i>	<i>df</i>	<i>p</i>
Pretest	21	26.38	2.71	-33,47	20	.00
Posttest	21	37.05	2.41			

* $p < 0.05$

From Table 4.13, total pretest score of total 4 dimensions is different from posttest score of total 4 dimensions by -10.67 (Pretest $\bar{x} = 26.38$, Posttest $\bar{x} = 37.05$), with total score 40. The results from *t*-test shows *t*-value of -35.10 which is higher than *t*-distribution (20) and *p* value = .00 (* $p < 0.05$). Then, it can be summarized that the given treatment influences overall students' ancient Chinese reading summarizing ability of total 4 dimensions at significance level 0.00.

Table 4.14 Relative developmental score of individual students' ancient Chinese reading summarizing ability of total 4 dimensions

Development Level of total 4 Dimensions	Frequency	Percentage
Very high level of development	11	52.38
High level of development	10	47.62
Moderate development	0	0.00
Low development	0	0.00

Details in Appendix Table 4.14.

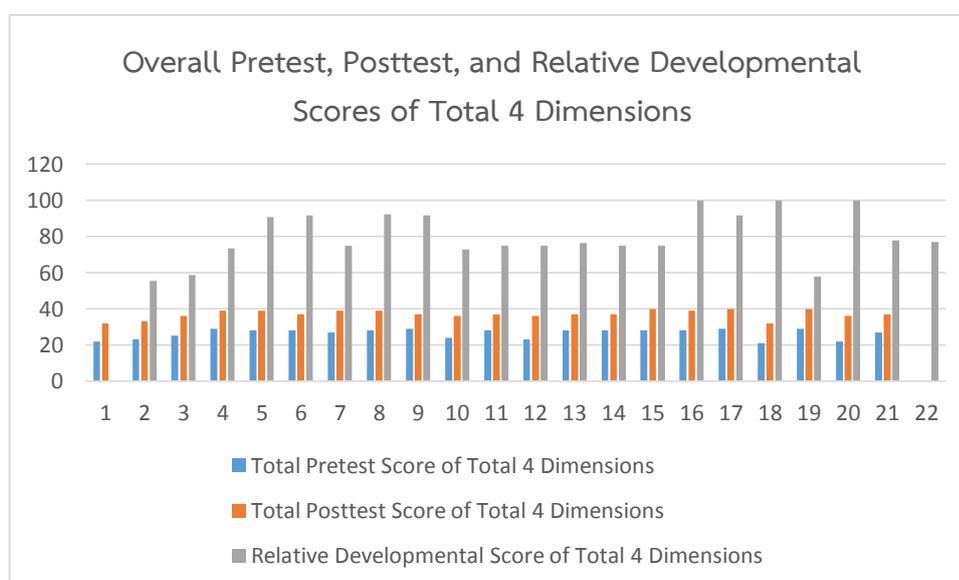


Figure 4.1 Overall pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of total 4 dimensions

Table 4.14 and Figure 4.1, in overview, the relative developmental scores of individual students' ancient Chinese reading summarizing ability of total 4 dimensions are found at **Very High** level (DS = 78.32). There are 11 students or 52.38% of all students at "**Very High**" developmental level of ancient Chinese reading summarizing ability of total 4 dimensions; and 10 students or 47.62% at "**High**" developmental level.

Table 4.15 Comparison between students' ancient Chinese reading summarizing ability of Dimension 1 before and after learning through mind mapping and problem-based learning instructional model

Average Score of Dimension 1	n	\bar{x}	S.D.	<i>t</i>	<i>df</i>	<i>p</i>
Pretest	21	6.57	0.75	-16.73	20	.00
Posttest	21	9.24	0.83			

* $p < 0.05$

From Table 4.15, average pretest score of Dimension 1 is different from average posttest score of Dimension 1 by -2.67 (Pretest $\bar{x} = 6.57$, Posttest $\bar{x} = 9.24$), with total score 10. The results from *t*-test shows *t*-value of -16.73 which is higher than *t*-distribution (20) and *p* value = .00 (* $p < 0.05$). Then, it can be summarized that the given treatment influences students' ancient Chinese reading summarizing ability of Dimension 1 at significance level 0.00.

Table 4.16 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Dimension 1

Development level of Dimension 1	Frequency	Percentage
Very high level of development	9	42.86
High level of development	10	47.62
Moderate development	2	9.52
Low development	0	0.00

Details in Appendix Table 4.16.

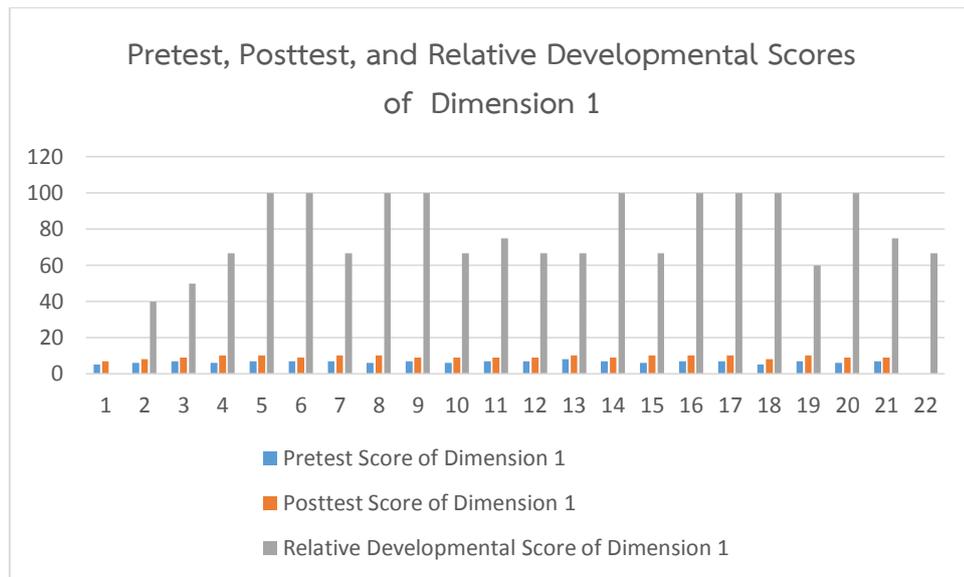


Figure 4.2 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Dimension 1

Table 4.16 and Figure 4.2, in overview, the relative developmental scores of individual students' ancient Chinese reading summarizing ability of Dimension 1 are found at **Very High** level (DS = 77.78). There are 9 students or 42.86% of all students at "**Very High**" developmental level of ancient Chinese reading summarizing ability of total 4 dimensions; 10 students or 47.62% at "**High**" developmental level; and 2 students or 9.52% at "**Moderate**" developmental level.

Table 4.17 Comparison between students' ancient Chinese reading summarizing ability of Dimension 2 before and after learning through mind mapping and problem-based learning instructional model

Average Score of Dimension 2	n	\bar{x}	S.D.	t	df	p
Pretest	21	6.38	.90	-18.89	20	.00
Posttest	21	9.24	.68			

*p<0.05

From Table 4.17, average pretest score of Dimension 2 is different from average posttest score of Dimension 2 (Interpret ideas and information) by -2.86 (Pretest \bar{x} = 6.38, Posttest \bar{x} = 9.24), with the total score 10. The results from t -test shows t -value of -18.89 which is higher than t -distribution (20) and p value = .00 (* p < 0.05). Then, it can be summarized that the given treatment influences students' ancient Chinese reading summarizing ability of Dimension 2 at significance level 0.00.

Table 4.18 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Dimension 2

Development level of Dimension 2	Frequency	Percentage
Very high level of development	9	42.86
High level of development	11	52.38
Moderate development	1	4.76
Low development	0	0.00

Details in Appendix Table 4.18.

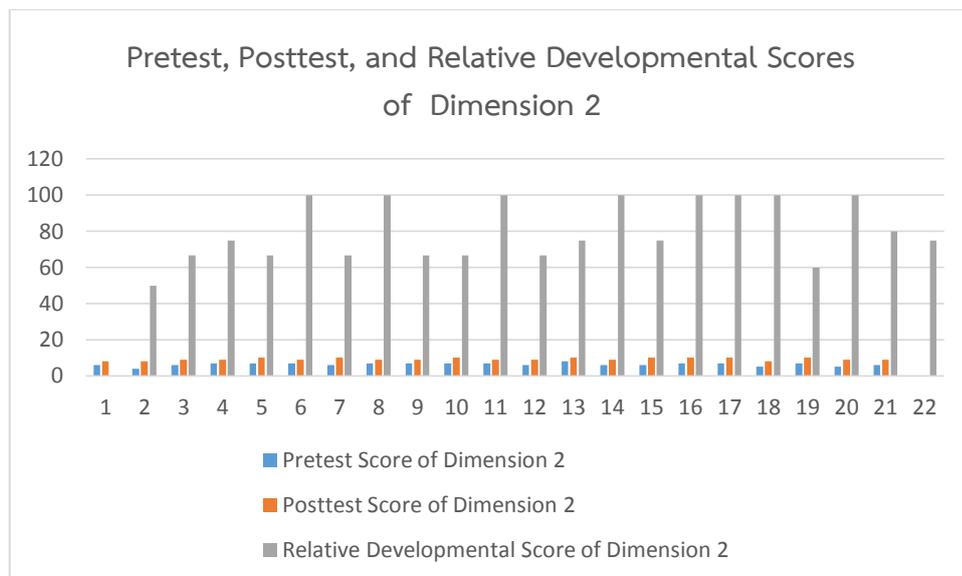


Figure 4.3 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Dimension 2

Table 4.18 and Figure 4.3, in overview, the relative developmental scores of individual students' ancient Chinese reading summarizing ability of Dimension 2 are found at **Very High** level (DS = 78.95). There are 9 students or 42.86% of all students at "**Very High**" developmental level of ancient Chinese reading summarizing ability of Dimension 2; 11 students or 52.38% at "**High**" developmental level; and 1 student or 4.76% at "**Moderate**" developmental level.

Table 4.19 Comparison between students' ancient Chinese reading summarizing ability of Section 1 of Dimension 2 before and after learning through mind mapping and problem-based learning instructional model

Average Score of Section 1 of Dimension 2	n	\bar{x}	S.D.	t	df	p
Pretest	21	3.33	.65	-11.25	20	.00
Posttest	21	4.81	.40			

*p<0.05

From Table 4.19, average pretest score of Section 1 of Dimension 2 is different from average posttest score of Section 1 of Dimension 2 by -1.48 (Pretest \bar{x} = 3.33, Posttest \bar{x} =4.81), with the total score 5. The results from *t*-test shows *t*-value of -11.25 which is higher than *t*-distribution (20) and *p* value = .00 (**p* < 0.05). Then, it can be summarized that the given treatment influences students' ancient Chinese reading summarizing ability of Section 1 of Dimension 2 at significance level 0.00.

Table 4.20 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 2

Development level of Section 1 of Dimension 2	Frequency	Percentage
Very high level of development	17	80.95
High level of development	1	4.76
Moderate development	3	14.29
Low development	0	0.00

Details in Appendix Table 4.20.

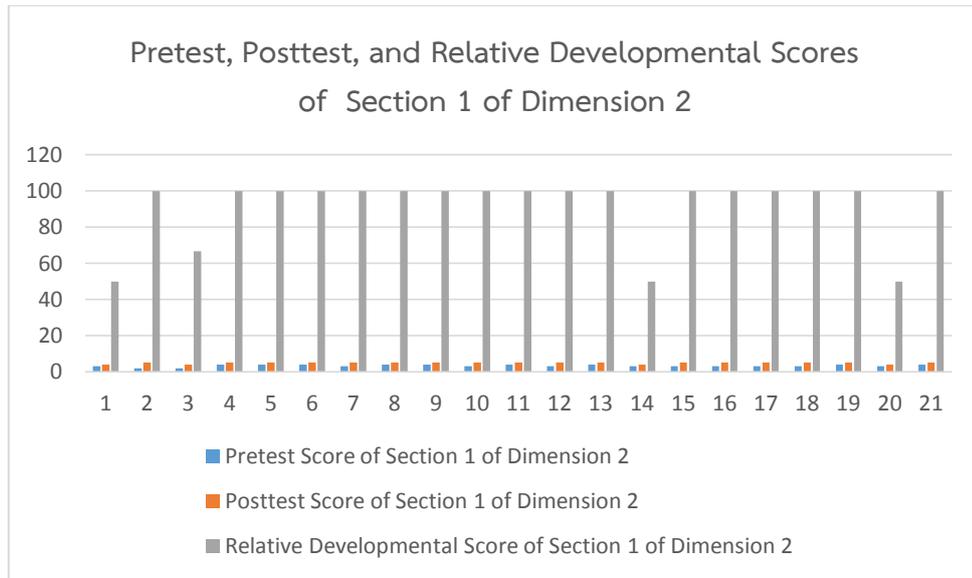


Figure 4.4 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 2

Table 4.20 and Figure 4.4, in overview, the relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 2 are found at **Very High** level (DS = 88.59). There are 17 students or 80.95% of all students at "**Very High**" developmental level of ancient Chinese reading summarizing ability of Section 1 of Dimension 2; 1 student or 4.76% at "**High**" developmental level; and 3 student or 14.29% at "**Moderate**" developmental level.

Table 4.21 Comparison between students' ancient Chinese reading summarizing ability of Section 2 of Dimension 2 before and after learning through mind mapping and problem-based learning instructional model

Average Score of Section 2 of Dimension 2	n	\bar{x}	S.D.	t	df	p
Pretest	21	3.05	.67	-10.73	20	.00
Posttest	21	4.43	.68			

*p<0.05

From Table 4.21, average pretest score of Section 2 of Dimension 2 is different from average posttest score of Section 2 of Dimension 2 by -1.38 (Pretest \bar{x} = 3.05, Posttest \bar{x} =4.43), with the total score 5. The results from *t*-test shows *t*-value of -10.73 which is higher than *t*-distribution (20) and *p* value = .00 (**p* < 0.05). Then, it can be summarized that the given treatment influences students' ancient Chinese reading summarizing ability of Section 2 of Dimension 2 at significance level 0.00.

Table 4.22 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 2

Development level of Section 2 of Dimension 2	Frequency	Percentage
Very high level of development	11	52.38
High level of development	1	4.76
Moderate development	9	42.86
Low development	0	0.00

Details in Appendix Table 4.22.

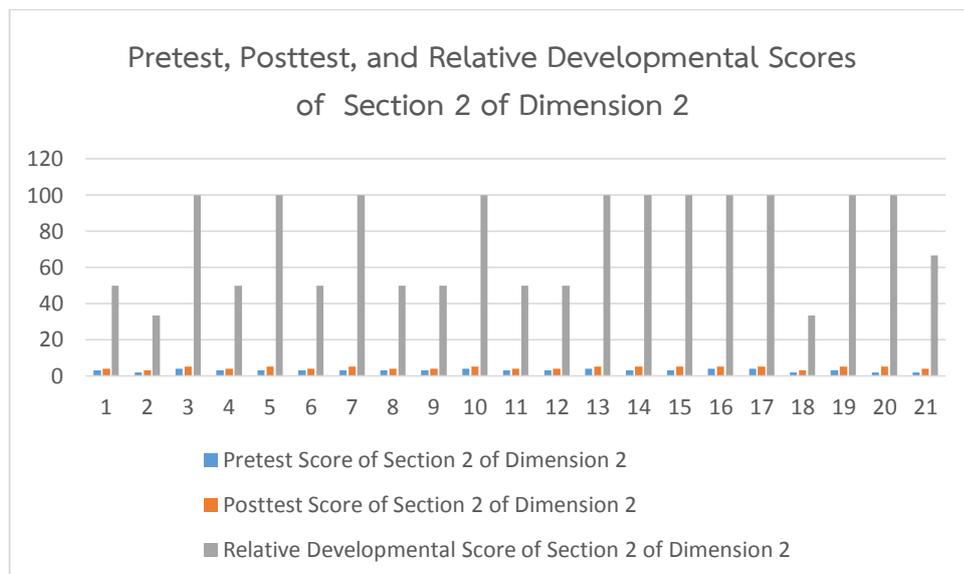


Figure 4.5 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 2

Table 4.22 and Figure 4.5, in overview, the relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 2 are found at **High** level (DS = 70.73). There are 11 students or 52.38% of all students at “**Very High**” developmental level of ancient Chinese reading summarizing ability of Section 2 of Dimension 2; 1 student or 4.76% at “**High**” developmental level; and 9 student or 42.86% at “**Moderate**” developmental level.

Table 4.23 Comparison between students' ancient Chinese reading summarizing ability of Dimension 3 before and after learning through mind mapping and problem-based learning instructional model

Average Scores of Dimension 3	n	\bar{x}	S.D.	<i>t</i>	<i>df</i>	<i>p</i>
Pretest	21	6.57	1.17	-17.94	20	.00
Posttest	21	9.19	.81			

* $p < 0.05$

From Table 4.23, average pretest score of Dimension 3 by -2.62 (Pretest $\bar{x} = 6.57$, Posttest $\bar{x} = 9.19$), with total score 10. The results from *t*-test shows *t*-value of -17.94 which is higher than *t*-distribution (20) and *p* value = .00 (* $p < 0.05$). Then, it can be summarized that the given treatment influences students' ancient Chinese reading summarizing ability of Dimension 3 at significance level 0.00.

Table 4.24 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Dimension 3

Development level of Dimension 3	Frequency	Percentage
Very high level of development	11	52.38
High level of development	9	42.86
Moderate development	1	4.76
Low development	0	0.00

Details in Appendix Table 4.24.

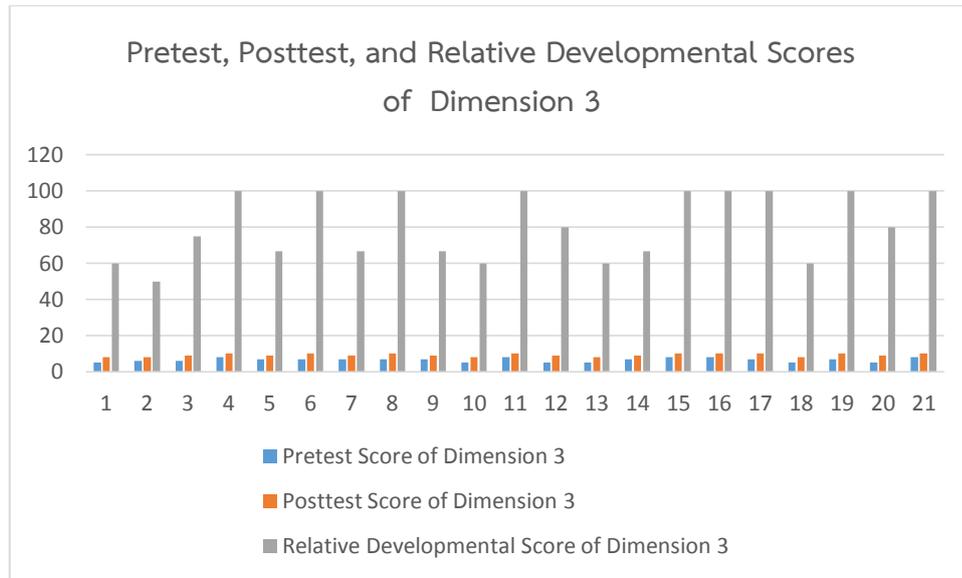


Figure 4.6 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Dimension 3

Table 4.24 and Figure 4.6, in overview, the relative developmental scores of individual students' ancient Chinese reading summarizing ability of Dimension 3 are found at **Very High** level (DS = 76.39). There are 11 students or 52.38% of all students at “**Very High**” developmental level of ancient Chinese reading summarizing ability of Dimension 3; 9 student or 42.86% at “**High**” developmental level; and 1 student or 4.76% at “**Moderate**” developmental level.

Table 4.25 Comparison between students' ancient Chinese reading summarizing ability of Section 1 of Dimension 3 before and after learning through mind mapping and problem-based learning instructional model

Average Score of Section 1 of Dimension 3	n	\bar{x}	S.D.	t	df	p
Pretest	21	3.62	.59	-16.67	20	.00
Posttest	21	4.71	.46			

*p<0.05

From Table 4.25, average pretest score of Section 1 of Dimension 3 is different from average posttest score of Section 1 of Dimension 3 by -1.09 (Pretest $\bar{x} = 3.62$, Posttest $\bar{x} = 4.71$), with the total score 5. The results from t -test shows t -value of -16.67 which is higher than t -distribution (20) and p value = .00 (* $p < 0.05$). Then, it can be summarized that the given treatment influences students' ancient Chinese reading summarizing ability of Section 1 of Dimension 3 at significance level 0.000.

Table 4.26 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 3

Development level of Section 1 of Dimension 3	Frequency	Percentage
Very high level of development	15	71.43
High level of development	1	4.76
Moderate development	5	23.81
Low development	0	0.00

Details in Appendix Table 4.26.

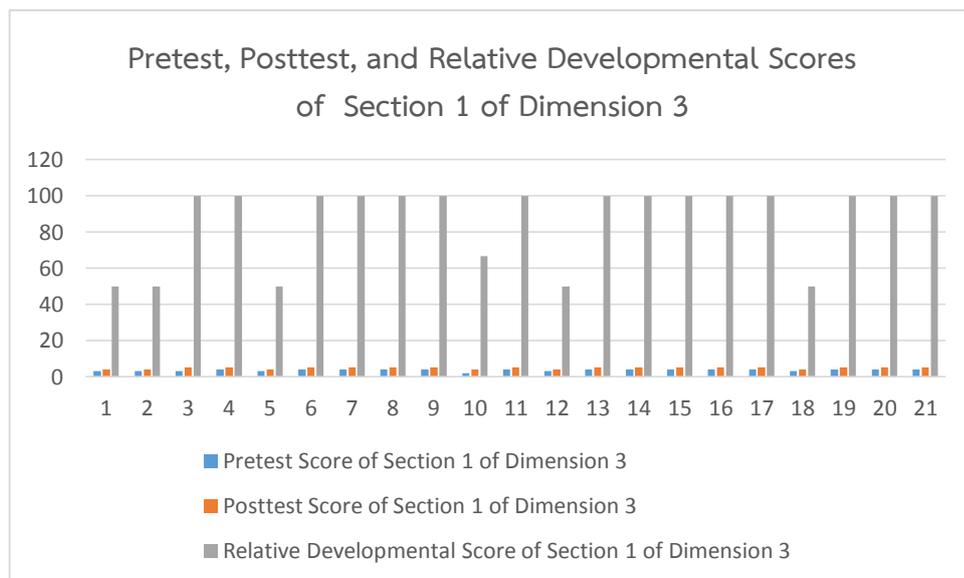


Figure 4.7 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 3

Table 4.26 and Figure 4.7, in overview, the relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 3 are found at **Very High** level (DS =79.31). There are 15 students or 71.43% of all students at “**Very High**” developmental level of ancient Chinese reading summarizing ability of Section 1 of Dimension 3; 1 student or 4.76% at “**High**” developmental level; and 5 student or 23.81% at “**Moderate**” developmental level.

Table 4.27 Comparison between students' ancient Chinese reading summarizing ability of Section 2 of Dimension 3 before and after learning through mind mapping and problem-based learning instructional model

Average Score of Section 2 of Dimension 3	n	\bar{x}	S.D.	t	df	p
Pretest	21	2.95	.92	-10.28	20	.00
Posttest	21	4.48	.60			

*p<0.05

From Table 4.27, average pretest score of Section 2 of Dimension 3 is different from average posttest score of Section 2 of Dimension 3 by -1.53 (Pretest \bar{x} = 2.95, Posttest \bar{x} = 4.48), with the total score 5. The results from *t*-test shows *t*-value of -10.28 which is higher than *t*-distribution (20) and *p* value = .00 (**p* < 0.05). Then, it can be summarized that the given treatment influences students' ancient Chinese reading summarizing ability of Section 2 of Dimension 3 at significance level 0.00.

Table 4.28 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 3

Development level of Section 2 of Dimension 3	Frequency	Percentage
Very high level of development	11	52.38
High level of development	3	14.29
Moderate development	7	33.33
Low development	0	0.00

Details in Appendix Table 4.28.

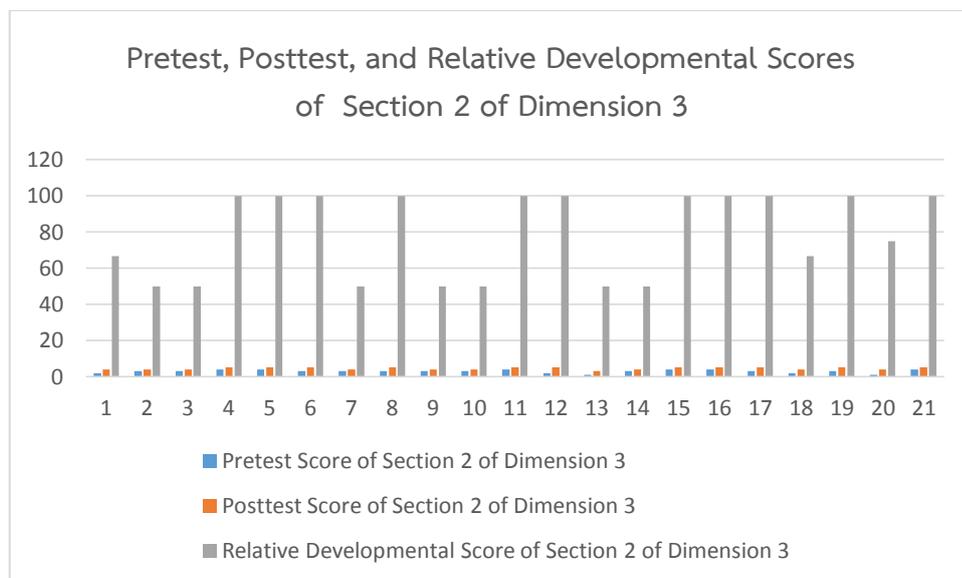


Figure 4.8 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 3

Table 4.28 and Figure 4.8, in overview, the relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 3 are found at **High** level (DS = 74.42). There are 11 students or 52.38% of all students at "**Very High**" developmental level of ancient Chinese reading summarizing ability of Section 2 of Dimension 3; 3 student or 14.29% at "**High**" developmental level; and 7 student or 33.33% at "**Moderate**" developmental level.

Table 4.29 Comparison between students' ancient Chinese reading summarizing ability of Dimension 4 before and after learning through mind mapping and problem-based learning instructional model

Average Scores of Dimension 4	n	\bar{x}	S.D.	<i>t</i>	<i>df</i>	<i>p</i>
Pretest	21	6.86	.96	-19.22	20	.00
Posttest	21	9.38	.59			

* $p < 0.05$

From Table 4.29, average pretest score of Dimension 4 by -2.52 (Pretest $\bar{x} = 6.86$, Posttest $\bar{x} = 9.38$), with total score 10. The results from *t*-test shows *t*-value of -19.22 which is higher than *t*-distribution (20) and *p* value = .00 (* $p < 0.05$). Then, it can be summarized that the given treatment influences students' ancient Chinese reading summarizing ability of Dimension 4 at significance level 0.000.

Table 4.30 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Dimension 4

Development level of Dimension 4	Frequency	Percentage
Very high level of development	10	47.62
High level of development	10	47.62
Moderate development	1	4.76
Low development	0	0.00

Details in Appendix Table 4.30.

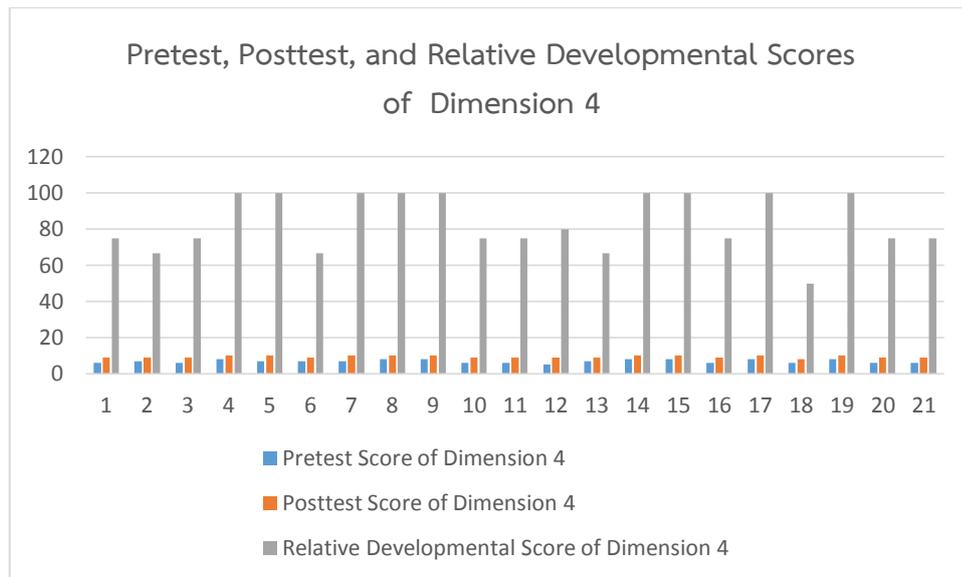


Figure 4.9 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Dimension 4

Table 4.30 and Figure 4.9, in overview, the relative developmental scores of individual students' ancient Chinese reading summarizing ability of Dimension 4 are found at **Very High** level (DS = 80.30). There are 10 students or 47.62% of all students at **“Very High”** developmental level of ancient Chinese reading summarizing ability of Dimension 4; 10 student or 47.62% at **“High”** developmental level; and 1 student or 4.76% at **“Moderate”** developmental level.

Table 4.31 Comparison between students' ancient Chinese reading summarizing ability of Section 1 of Dimension 4 before and after learning through mind mapping and problem-based learning instructional model

Average Score of Section 1 of Dimension 4	n	\bar{x}	S.D.	t	df	p
Pretest	21	3.57	.51	-14.61	20	.00
Posttest	21	4.71	.46			

*p<0.05

From Table 4.31, average pretest score of Section 1 of Dimension 4 is different from average posttest score of Section 1 of Dimension 4 by -1.14 (Pretest $\bar{x} = 3.57$, Posttest $\bar{x} = 4.71$), with the total score 5. The results from t -test shows t -value of -14.61 which is higher than t -distribution (20) and p value = .00 ($*p < 0.05$). Then, it can be summarized that the given treatment influences students' ancient Chinese reading summarizing ability of Section 1 of Dimension 4 at significance level 0.00.

Table 4.32 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 4

Development level of Section 1 of Dimension 4	Frequency	Percentage
Very high level of development	14	66.67
High level of development	0	0.00
Moderate development	7	33.33
Low development	0	0.00

Details in Appendix Table 4.32.

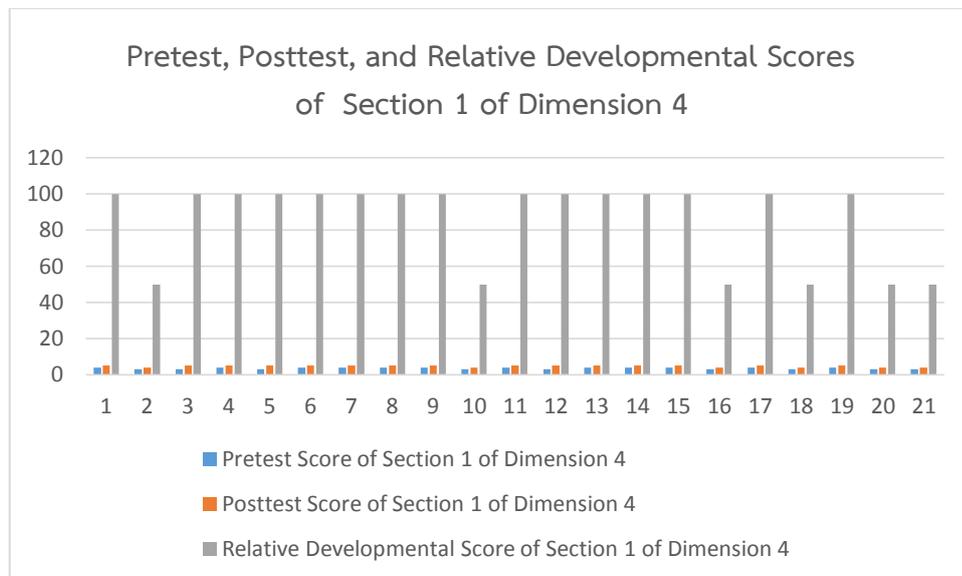


Figure 4.10 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 4

Table 4.32 and Figure 4.10, in overview, the relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 4 are found at **Very High** level (DS = 80.00). There are 14 students or 66.67% of all students at “**Very High**” developmental level of ancient Chinese reading summarizing ability of Section 1 of Dimension 4; and 7 student or 33.33% at “**Moderate**” developmental level.

Table 4.33 Comparison between students' ancient Chinese reading summarizing ability of Section 2 of Dimension 4 before and after learning through mind mapping and problem-based learning instructional model

Average Score of Section 2 of Dimension 4	n	\bar{x}	S.D.	t	df	p
Pretest	21	3.29	.72	-12.72	20	.00
Posttest	21	4.67	.48			

*p<0.05

From Table 4.33, average pretest score of Section 2 of Dimension 4 is different from average posttest score of Section 2 of Dimension 4 by -1.38 (Pretest \bar{x} = 3.29, Posttest \bar{x} = 4.67), with the total score 5. The results from *t*-test shows *t*-value of -12.72 which is higher than *t*-distribution (20) and *p* value = .00 (**p* < 0.05). Then, it can be summarized that the given treatment influences students' ancient Chinese reading summarizing ability of Section 2 of Dimension 4 at significance level 0.00.

Table 4.34 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 4

Development level of Section 2 of Dimension 4	Frequency	Percentage
Very high level of development	14	66.67
High level of development	3	14.29
Moderate development	4	19.04
Low development	0	0.00

Details in Appendix Table 4.34.

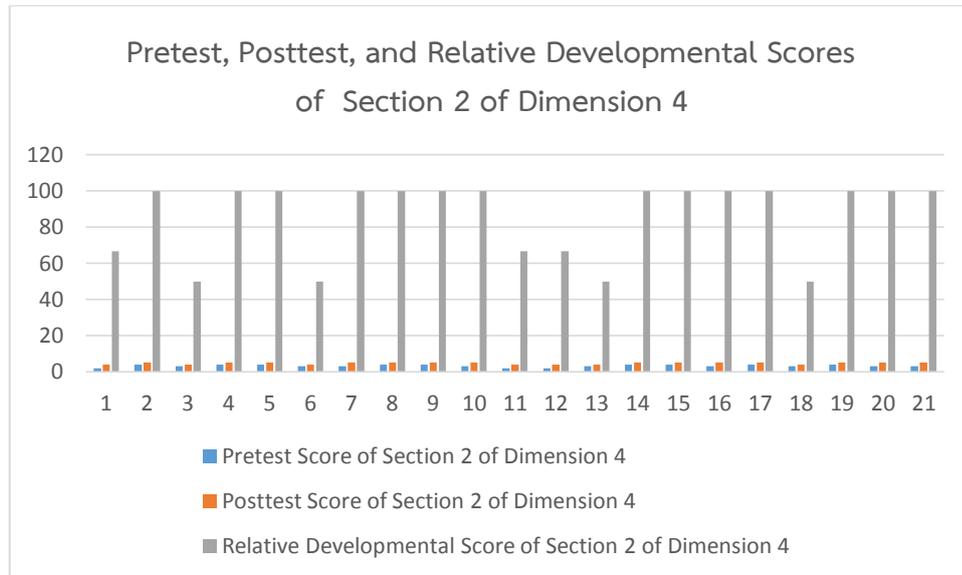


Figure 4.11 Pretest scores, posttest scores, and relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 4

Table 4.34 and Figure 4.11, in overview, the relative developmental scores of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 4 are found at **Very High** level (DS = 80.56). There are 14 students or 66.67% of all students at "**Very High**" developmental level of ancient Chinese reading summarizing ability of Section 2 of Dimension 4; 3 student or 14.29% at "**High**" developmental level; and 4 student or 19.04% at "**Moderate**" developmental level.

Summary for Chapter 4

The developed mind mapping and problem-based learning instructional model can be show in Figure 4.12.

Chapter 5

Conclusions Discussions and Recommendations

The result in the study of “Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students: A Case Study in Southwest Jiaotong University”, the researcher presented the documents concerning the following.

Research Objectives

1. To examine the factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan Province.
2. To develop mind mapping and problem-based learning instructional model for ancient Chinese reading summarizing ability of the undergraduate students in Southwest Jiaotong University.
3. To study the result of mind mapping and problem-based learning instructional model for ancient Chinese reading summarizing ability of the undergraduate students in Southwest Jiaotong University.

Conclusions

From the objectives of research

1. The factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan Province include two factors: internal factors and external factors. The results of data analysis on student data show that “Students believe that friendly cooperation and interaction between students are necessary” and “Students think that ancient Chinese reading summarizing ability is very useful” are the most influential internal factors, and “The proposal and resolution of problems can stimulate students' learning, thinking and discussion” and “Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students' information processing” are the most influential external factors. Teachers' opinions also reflect the internal factors, such as, students work

hard in their studies and ancient Chinese reading summarizing ability is essential and important.

Internal factors can be concluded into two parts, i.e., physical ones and psychological ones. Physical: 1) Students are working hard in this course, and 2) Students are actively participating in class. Psychological: 1) Students know the importance of the ancient Chinese course, 2) Students know the usefulness of ancient Chinese reading summarizing ability, and 3) Students are willing to cooperate and interact with others.

External Factors can be concluded into three parts, i.e., teacher, teaching methods, and evaluation. Teacher: Teachers are highly knowledgeable and willing to improve teaching methods and skills. Teaching methods: 1) Graphic and textual manner in class are helpful for analyzing the structure of the articles, 2) The proposal and resolution of problems in class can stimulate students' learning, thinking and discussion, and 3) More discussion, communication, and group work should be carried out in class. Evaluation: Both process evaluation and summative evaluation are used to grade students.

2. Mind Mapping and Problem-Based Learning Instructional Model to enhance ancient Chinese reading summarizing ability for undergraduate students in Southwest Jiaotong University include 5 components: 1) Principle and Rationale, 2) Objectives, 3) Contents, 4) Method of teaching & Materials and 5) Evaluation. The model is 100% conformed to utility, feasibility, propriety, and accuracy as assessed by 5 specialists.

3. After testing the research hypothesis, it can be found that the given treatment influences students' ancient Chinese reading summarizing ability at significance level 0.00. Moreover, the overall relative developmental scores of individual students' ancient Chinese reading summarizing ability of total 4 dimensions are generally found at **Very High** level (DS = 78.32). There are 11 students or 52.38% of all students at "**Very High**" developmental level of ancient Chinese reading summarizing ability of total 4 dimensions; and 10 students or 47.62% at "**High**" developmental level.

Discussions

In the study of “Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students: A Case Study in Southwest Jiaotong University”, the researcher presented the documents concerning the following.

1. For factors affecting ancient Chinese reading summarizing ability of undergraduate students in Sichuan Province

The data obtained from questionnaire for students and interview for lecturers indicate either internal or external factors influencing ancient Chinese reading summarizing ability of undergraduates. One of the most influential internal factors is “Students are actively participating in class”, which only fully aligns with the advantages of mind mapping, but also fully aligns with the gestures of problem-based learning. Eppler (2006) found that mind mapping is very useful because it can encourage self-expression. Tosheva (2022) said found mind mapping improve students' motivation and participation. Wu (2020) thought Mind Map can highlight the dominant position of students in class. Gomez and Freire (2022) believed that problem-based learning is student-centered learning, autonomous learning. Mustapa, Salleh, & Abd Mutalib (2020) found that students are more active and more involved when using PBL.

Another most influential internal factor “Students are willing to cooperate and interact with others” can tell the importance of students’ willing to cooperate and interact with others in enhancing their ancient Chinese reading summarizing ability. This factor not only fully aligns with the advantages of mind mapping, but also fully aligns with the gestures of PBL. Tsironis and Moustakis (2007) found that participants prefer teamwork when building mind maps, because it can develop collaborative interaction and rich knowledge. Barrows and Kelson (1995, Monograph 1) found that becoming effective collaborators is one of the 5 goals that PBL was designed to help students. Wood (2003) found group learning in PBL has an attribute of sharing information and respect for others. And one of the prominent features of problem-based learning is that group work is used to stimulate interaction (K. Khadjooi & K. Rostami, 2011).

One of the most influential external factors is “The proposal and resolution of problems can stimulate students' learning, thinking and discussion”, which is perfectly fits the characteristics of PBL. Gomez & Freire (2022) believed that PBL focuses on problem-solving learning. Barrows and Kelson (1995, Monograph 1) found that developing effective problem-solving skills is one of the 5 goals that PBL was designed to help students. K. Khadjooi and K. Rostami (2011) believed that one of the prominent features of problem-based learning is that problems are used to stimulate learning.

And another most influential external factor is “Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students' information processing”, which is perfectly fits the characteristics of mind mapping. Buzan (2018, p.6) said that one of the characteristics of Mind Mapping, different from conventional note-taking, is words combined with pictures. Wang and Dostal (2018) believed that using mind mapping in learning conforms to the theory of visual knowledge, information processing and brain science. Liu, Tong & Yang (2018) believed that using minds mapping teaching method, the abstract and invisible thinking mode is designed into a visible and radial thinking mode, which can improve students' understanding.

In summary, the most influential factors affecting ancient Chinese reading summarizing ability are found perfectly fit the characteristics of mind mapping and problem-based learning, which provides a possibility to develop the new instructional model integrating them to enhance ancient Chinese reading summarizing ability for undergraduate students.

2. For the 5 components of mind mapping and problem-based learning instructional model

The 5 components of Mind Mapping and Problem-Based Learning (MMPBL) Instructional Model are: 1) Principle and Rationale, 2) Objectives, 3) Contents, 4) Method of teaching & Materials and 5) Evaluation, which confirmed by 5 specialists to be appropriate for further implementation. The confirmability results can be supported by unanimous agreement from the specialists across all components,

utility, feasibility, propriety, and accuracy. Some details and discussion are shown as follows.

Regarding utility standard, MMPBL Instructional Model to enhance ancient Chinese reading summarizing ability for undergraduate students in Southwest Jiao Tong University:

The Principle and Rationale of the MMPBL Instructional Model were unanimously confirmed by all the 5 specialists in terms of its utility, feasibility, propriety, and accuracy. This suggests that the new instructional model is robust and has a relatively sturdy theoretical foundation. And this also suggests that it is conducive to the enhancement of undergraduate students' ancient Chinese reading summarizing ability, which provides effective support in theory.

The Objectives of the MMPBL Instructional Model were approved by all the 5 specialists. This unanimity indicates that the objectives set by the new instructional model are clear, relevant, and appropriate, and aimed at enhancing undergraduate students' ancient Chinese reading summarizing ability.

The Contents component were also agreed upon by all the 5 specialists, indicating that the teaching contents of the MMPBL Instructional Model are suitable and well-designed for enhancing undergraduate students' ancient Chinese reading summarizing ability.

The Methods of Teaching & Materials were also received a 100% confirmability score from all the 5 specialists, which indicates that the teaching methods, teaching activities and teaching resources of the MMPBL Instructional Model are well-designed, useful, feasible, proper, accurate, and helpful for enhancing undergraduate students' ancient Chinese reading summarizing ability.

The Evaluation component was also unanimously confirmed by all 5 specialists, emphasizing the effectiveness and appropriateness of the evaluation and feedback mechanisms of the MMPBL Instructional Model to assess and enhance undergraduate students' ancient Chinese reading summarizing ability.

In conclusion, the unanimous confirmation by all the 5 specialists in terms of utility, feasibility, propriety, and accuracy shows the robustness and adaptability of the new instructional model. It suggests, without doubt, that MMPBL Instructional

Model is well-designed and can effectively enhance undergraduate students' ancient Chinese reading summarizing ability.

3. For the result after implementing mind mapping and problem-based learning instructional model

After implementing the MMPBL Instructional Model and analyzing the students' scores of pretest and posttests, it can be found that the given treatment influences students' ancient Chinese reading summarizing ability at significance level 0.000. There are four pretests and four posttests, which correspond to the four dimensions of ancient Chinese reading summarizing ability respectively. The overall relative developmental scores of individual students' ancient Chinese reading summarizing ability of total 4 dimensions are generally found at **Very High** level (DS=78.32). There are 11 students or 52.38% of all students at "**Very High**" developmental level of ancient Chinese reading summarizing ability of total 4 dimensions; and 10 students or 47.62% at "**High**" developmental level. From the result analysis, it can be found that mind mapping and problem-based learning instructional model is proved to be effective in enhancing undergraduate students' ancient Chinese reading summarizing ability. The efficiency of mind mapping and problem-based learning instructional model is consistent with some previous research findings. Sun, etc. (2021) found that the application effect of mind mapping combined with problem-based learning teaching method in infectious disease probation is very good. Li, etc. (2020) found that introducing mind mapping into the general course of food nutrition and health under the problem-based teaching mode can effectively improve the teaching process and help students actively and efficiently complete the whole learning process. Huang and Liang (2020) found that the teaching method of mind mapping combined with problem-based learning can improve students' ability and thinking level, and the application effect is very ideal. Yang, Liu, and Tian (2020) found that in the teaching process of chemical dynamics, the use of PBL mind mapping method can make students remember and understand the most important formula well, and the teaching effect is good. Gao, etc. (2022) found that the combination of PBL teaching mode and mind mapping is suitable for

Chinese nursing teaching. Hidayati, etc. (2019) PBLDMM model is proved to be valid, practical, and effective in enhancing students' creativity.

Recommendations

The findings from the present study bring twofold suggestions: applicability of the results and future research.

Applicability of the results

1. Applicability of Integration of the Two Teaching Methods

Mind mapping and problem-based learning are two different teaching methods, and each one has its own characteristics and advantages. However, these two different teaching methods can be well integrated through the thinking and practice of researchers, forming a new teaching model that combines the advantages of both. This study combines mind mapping and problem-based learning to form 7 teaching steps suitable for ancient Chinese course. And the results of this study fully demonstrate the feasibility and applicability of integrating mind mapping and problem-based learning into a new instructional model.

2. Effectiveness of Mind Mapping and Problem-Based Learning Instructional Model in Reading Course

The results of this study fully demonstrate the significant effectiveness of the new instructional model in teaching ancient Chinese course, and in enhancing undergraduate students' ancient Chinese reading summarizing ability. In Chapter 2 of this study, the researcher, after studying literature about the effectiveness of mind mapping and problem-based learning instructional model, found that the majors involved are mainly medical teaching. However, this study broke through this limitation and proved that the new instructional model can also be fully applied to the teaching of other sciences or majors.

3. Consistency of Teaching Objectives, Teaching Method, and Evaluation Method

In the instructional model, teaching objectives, teaching method, and evaluation methods are all very important components, and they should be interrelated and complementary to each other. Teaching objectives are the core, and

teaching method and evaluation method must serve to achieve teaching objectives. In addition, the evaluation method also needs to conform to the characteristics of the teaching method, and the effectiveness of the teaching method needs to be reflected through effective evaluation method. In this study, the teaching objective is to enhance undergraduate students' ancient Chinese reading summarizing ability, the teaching method are mind mapping and problem-based learning, and the evaluation method is mainly pre and post tests. From the results of this study, it can be seen that the teaching objectives, teaching method, and evaluation method are highly consistent.

Future Research

1. Individual or Detailed Research in the Instructional Model

In the process of this study, the researcher found that some students had significant individual differences, such as their ability to adapt to the new instructional model, their cognitive ability to knowledge, their level of participation in group activities, and their emphasis on course evaluation. Some of these individual differences are typical and can be further studied to investigate the relationship between these individual differences and the mind mapping and problem-based learning instructional model, as well as the degree of their impact. In addition, some details in this study are also worth further in-depth research. For example, from the pre and post test results, among the four dimensions of undergraduate students' ancient Chinese reading summarizing ability, three have a Development Level of Very High, while another has a Development Level of high. What is the reason for this result? Future research can be conducted on it.

2. Research on the Instructional Model on a Larger Scale or for a Longer Term

The size of the sample and the duration of teaching practice have a certain impact on the reliability of the research results. The sample of this study is a class of 21 undergraduate students, with a relatively small sample size. If conditions permit, moderately increasing the number of samples or conduct the research in some other universities in future research may result in more accurate research results. In addition, the duration of teaching practice in this study is 16 class hours, which is not

very long. If conditions permit, extending the duration of teaching practice appropriately in future research may result in more accurate research results.

3. Comparative Studies of Different Instructional Models

The results of this study show that through the mind mapping and problem-based learning instructional model, ancient Chinese reading summarizing ability of undergraduate students in southwest Jiaotong university has significantly improved overall. However, this study did not adopt a comparative study format between the experimental group and the control group. If conditions permit in future, research can be conducted on the relative comparison between the new instructional model and traditional teaching model, and the research results may be more convincing. In addition, there have been popular teaching methods recently, such as Flipped Classroom Teaching Method, Task Based Approach, Case Based Learning, and Presentation Assimilation Discussion (PAD), etc. Whether there are differences in teaching effectiveness between them and the mind mapping and problem-based learning instructional model can be included in the scope of future research.

Reference

- Ab Latif, R., & Nor, M. Z. M. (2020). Using the ADDIE Model to Develop a Rusnani Concept Mapping Guideline for Nursing Students. *MALAYSIAN JOURNAL OF MEDICAL SCIENCES*, 27(6), 115-127, DOI:10.21315/mjms2020.27.6.11.
- Adi, H. S., Haryono, H., & Sulistyorini, S. (2021). The development of instructional design using ASSURE model in mathematics for elementary school to improve financial literacy. *Journal of Curriculum Indonesia*, 4(1), 30–42. <http://hipkinjateng.org/jurnal/index.php/jci/article/view/40>.
- Adnan, A. H. M. & Ilias, N. (2012). "I think I'm an active learner": narrative-quantitative research on the metacognitive preparedness of first semester [college students]. *Proceedings of the International Conference on Active Learning (ICAL 2012), Universiti Teknikal Malaysia Melaka (UTeM)*, 1, 121-127.
- AlNajdi, S. M. (2018). Design a blended learning environment to teach Arabic alphabet for non-Arabic speaker children based on ASSURE model. *International Journal of Information and Education Technology*, 8(2), 128–132. doi:10.18178/ijiet.2018.8.2.1021.
- Akbulut, Y. (2007). IMPLICATIONS OF TWO WELL-KNOWN MODELS FOR INSTRUCTIONAL DESIGNERS IN DISTANCE EDUCATION: DICK-CAREY VERSUS MORRISON-ROSS-KEMP. *TURKISH ONLINE JOURNAL OF DISTANCE EDUCATION*, 8(2), 62-68.
- Allen, M. (2017). Designing online asynchronous information literacy instruction using the ADDIE model. *Distributed Learning*, 69–91. doi: 10.1016/B978-0-08-100598-9.00004-0.
- Alek, A. (2019). Fostering Undergraduate Students' Reading Performance in English Discourse through Problem-Based Learning Model. *Indonesian Journal of English Language Teaching and Applied Linguistics*, 4(1), DOI: 10.21093/ijeltal.v4i1.434.
- Alex, J. L., Barry, K. & Jieun, K. (2018). Mapping associations: exploring divergent thinking through mind mapping. *International Journal of Design Creativity and Innovation*, DOI: 10.1080/21650349.2018.1463178.

- Amalia, E., Surya, E., & Syahputra, E. (2017). The Effectiveness of Using Problem-Based Learning (PBL) In Mathematics Problem Solving Ability for Junior High School Students. *International Journal of Advance*, 3(2), 3402-3406.
- Amrina, Z., Syahmaid, E., Zuzano, F., Wahyuni, Y., & Hidayat, H. (2018). Development of Problem-based Mathematic Learning Model to Increase Students' Competence. *KnE Social Sciences*, 222-233. DOI10.18502/kss.v3i15.4369.
- Arends, R. (2007). *Learning to Teach: Belajar Untuk Mengajar*. Yogyakarta: Pustaka Pelajar.
- Arviana, R., Irwan, & Dewi, M. P. (2018). Problem Based Learning in Mathematics Education and Its Effect on Student's Critical Thinking. *ADVANCED SCIENCE LETTERS*, (24), (1), 211-213. DOI:10.1166/asl.2018.11962.
- Asghari, H., & Fatemi, O. (2016). An Axiomatic Approach to Instructional System Design Based on Dick and Carey Model. *PROCEEDINGS OF THE 15TH EUROPEAN CONFERENCE ON E-LEARNING (ECEL 2016)*, 33-40.
- Astriani, D., Susilo, H., Suwono, H., Lukiati, B., & Purnomo, A. (2020). Mind Mapping in Learning Models: A Tool to Improve Student Metacognitive Skills *INTERNATIONAL JOURNAL OF EMERGING TECHNOLOGIES IN LEARNING*, (15), (6), 4-17. DOI:10.3991/ijet.v15i06.12657.
- Azizha, F. S., Umamah, N., & Sumardi. (2020). The development of Patukangan local sites Situbondo e-module for history learning by using Dick and Carey model. *SECOND INTERNATIONAL CONFERENCE ON ENVIRONMENTAL GEOGRAPHY AND GEOGRAPHY EDUCATION (ICEGE)*, 485, DOI:10.1088/1755-1315/485/1/012131.
- Barrows, H. S. (2000). *Problem-based learning applied to medical education*. Southern Illinois University School of Medicine, Springfield Illinois.
- Brown, A. H. & Green, T. D. (2015). *The essentials of instructional design: connecting fundamental principles with process and practice*. New York: Routledge.
- Buzan, T. (1972). *Spore one: Structure in hyperspace, and other poems*. Suffolk: The Boydell Press.
- _____. (2018). *Mind Map Mastery*. London: Watkins Publications.

- Buzan, T. & Buzan, B. (1994). *The Mind Mapbook: How to Use Radiant Thinking to Maximize Your Brain's Untapped Potential*. New York: the Penguin Group.
- _____. (1995). *The mind map book*. London: BBC Books.
- _____. (2010). *The Mind Map Book: Unlock your creativity, boost your memory, change your life*. Pearson, Harlow.
- Chova, L. G., Martinez, A. L., & Torres, I. C. (2018). PROBLEM-BASED LEARNING IN SHARED INTERDISCIPLINARY SPACE. *EDULEARN Proceedings*, 3845-3851.
- Chutrtong, J. & Chutrtong, W. (2019). Achievement of Sanitary Learning by Problem-Based Learning. (PBL). *ADVANCES IN HUMAN FACTORS IN TRAINING, EDUCATION, AND LEARNING SCIENCES*, 423-429, DOI:10.1007/978-3-319-93882-0_40.
- Compton, R. M., Owilli, A. O., Norlin, E. E., & Murdoch, N. L. H. (2020). Does problem-based learning in Nursing Education Empower Learning?. *NURSE EDUCATION IN PRACTICE*, (44). DOI:10.1016/j.nepr.2020.102752.
- Davletkaliyeva, Y., Muldasheva, B., Sarsenbayeva, G., Kuzhagulova, Z. & Kerimberdina, A. (2018). MIND MAPPING TECHNOLOGY IN THE COGNITIVE DEVELOPMENT OF SCHOOLCHILDREN. *INTED Proceedings*, 8907-8911.
- Desiningrum, N., & Nuryasana, E. (2018). The Development Of Learning Technology Based On Character Building With Dick And Carey Model. *PROCEEDINGS OF THE 2ND INTERNATIONAL CONFERENCE ON EDUCATION INNOVATION (ICEI 2018)*, 212, 133-136.
- Dick, W., Carey, L., & Carey, J. O. (2015). *The Systematic Design of Instruction* (8th, ed.). Boston: Pearson Education
- Dolmans, D., & Snellen-Balendong, H. (2000). *Problem construction*. Maastricht, The Netherlands: Universitaire Pers Maastricht.
- Eagle, C. J., Harasym, P. H., & Mandin, H. (1992). Effects of tutors with case expertise on problem-based learning issues. *ACADEMIC MEDICINE*, 67(7), 465-469, DOI:10.1097/00001888-199207000-00012
- Elasrag, G. A. A., & Elsabagh, N. E. (2020). THE EFFECT OF MIND MAPPING ON CRITICAL THINKING SKILLS OF UNDERGRADUATE NURSING STUDENTS. *PHARMACOPHORE*, 11(1), 73-84

- Eppler, M. J. (2006). A comparison between concept maps, mind maps, conceptual diagrams, and visual metaphors as complementary tools for knowledge construction and sharing. *Information Visualization*, 5(3), 202–210. DOI: 10.1057/palgrave.ivs.9500131.
- Gao, W. C., Zhao, R. J., Zhang, G. Y. & Qian, X. (2018). Research on the Application of Mind Map in "Artificial Intelligence" Teaching. *ICEBT 2018: PROCEEDINGS OF THE 2018 2ND INTERNATIONAL CONFERENCE ON E-EDUCATION, E-BUSINESS AND E-TECHNOLOGY*, 12-18. DOI:10.1145/3241748.3241754.
- Gao, X. L., Wang, L., Deng, J. J., Wan, C. M., & Mu, D. Z. (2022). The effect of the problem based learning teaching model combined with mind mapping on nursing teaching: A meta-analysis. *NURSE EDUCATION TODAY*, (111). DOI:10.1016/j.nedt.2022.105306.
- Gijbels, D., Dochy, F. & Van den Bossche, P. (2005). Effects of problem-based learning: A meta-analysis from the angle of assessment. *Review of educational research*, 75(1), 27-61.
- Goksu, I., Ozcan, K. V., Cakir, R. & Goktas, Y. (2017). Content analysis of research trends in instructional design models: 1999–2014. *Journal of Learning Design*, 10(2), 85–109. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1134619.pdf>.
- Gomez, V. J. G., & Freire, E. E. E. (2022). PROBLEM-BASED LEARNING FOR THE TEACHING-LEARNING PROCESS. *REVISTA UNIVERSIDAD Y SOCIEDAD*, (14), (2), 124-131.
- Gonzalez, L. (2019). The Problem-Based Learning Model. *Proceedings of the International Conference of Educational Innovation through Technology*, 180-183.
- Grazziotin-Soares, R., Curtis, D. A. & Ardenghi, D. M. (2020). Use of mind maps in dental education: An activity performed in a preclinical endodontic course. *JOURNAL OF DENTAL EDUCATION*, (85), (5), 623-633. DOI:10.1002/jdd.12510.
- Guo, H. (2021). Exploration and practice of the implementation path of "curriculum ideology and politics" in ancient Chinese. *Journal of Higher Education*, (27), 173-176.

- Gustafson, K. L., & Branch, R. M. (2002). What is instructional design? In R.A. Reiser & J. A. Dempsey (Eds.), *Trends and issues in instructional design and technology*, 16-25, Saddle River, NJ: Merrill/Prentice-Hall.
- Heinich, R., Molenda, M., Russell, J. D., & Smaldino, S. (1999). *Instructional media and technologies for learning* (6th ed.). Englewood Cliffs, NJ: Merrill/Prentice Hall.
- Hidayati, N., Zubaidah, S., Suarsini, E. & Praherdhiono, H. (2019). An Effective Learning Model Derived from Integration Problem-Based Learning and Digital Mind Maps to Enhance Students' Creativity. *ICEMT 2019: 2019 3RD INTERNATIONAL CONFERENCE ON EDUCATION AND MULTIMEDIA TECHNOLOGY*, 369-374, DOI:10.1145/3345120.3345138.
- Hmelo-Silver, C.E. (2004). Problem-based learning: What and how do students learn?. *Educational Psychology Review*, 16(3), 235-266, DOI:10.1023/B:EDPR.0000034022.16470.f3.
- Jabaay, M. J., Grcevich, L. O., Marotta, D. A., & Reynolds, J. H. (2020). Trauma and Triage: Applying the Dick and Carey Instructional Design Model to a Primary Survey Clinical Workshop. *Cureus*, 12(6), DOI: 10.7759/cureus.8656.
- John W. Budd. (2004). Mind Maps As Classroom Exercises. *The Journal of Economic Education*, 35:1, 35-46, DOI: 10.3200/JECE.35.1.35-46.
- Jonasen, T.S. & Gram-Hansen, S.B. (2019). Problem Based Learning: A Facilitator of Computational Thinking. *PROCEEDINGS OF THE 18TH EUROPEAN CONFERENCE ON E-LEARNING (ECEL 2019)*, 260-267, DOI:10.34190/EEL.19.150.
- K. Khadjooi & K. Rostami. (2011). Problem-based learning. *Gastroenterology and Hepatology from bed to bench*, vol.4, no.1, 12.
- Kanjanawasee, S. (2009). *Evaluation Theory*. 7th ed. Bangkok: Chulalongkorn University.
- Kao, G., Cheng, J.I., & Tsai, C. (2017). Improving Reading Comprehension using the Cooperative Mind Mapping Summary Strategy. *25TH INTERNATIONAL CONFERENCE ON COMPUTERS IN EDUCATION (ICCE 2017)*, 149-251.
- Kim, D. & Downey, S. (2016). Examining the Use of the ASSURE Model by K-12 Teachers. *Computers in the Schools*, 33(3), 153-168, DOI:10.1080/07380569.2016.1203208.

- Lin, L. (2018). Integrating the Problem-Based Learning Approach Into a Web-Based English Reading Course. *JOURNAL OF EDUCATIONAL COMPUTING RESEARCH*, Volume 56, 105-133, DOI:10.1177/0735633117705960.
- Liu, T., & Yuizono, T. (2020). Mind Mapping Training's Effects on Reading Ability: Detection Based on Eye Tracking Sensors. *SENSORS*, 20(16), DOI:10.3390/s20164422.
- Liu, W. (2022). Using PBL combined with mind map in the preceptorship of traditional Chinese medicine nursing technology. *China Higher Medical Education*, 04, 89-90 .
- Liu, Y. Z., Tong, Y. X., & Yang, Y. Q. (2018). The Application of Mind Mapping into College Computer Programming Teaching. *Procedia Computer Science*, (129), 66-70. DOI:10.1016/j.procs.2018.03.047.
- Loc, N. P., & Loc, M. T. (2020). Using mind map in teaching mathematics: An experimental study. *International Journal of Scientific & Technology*, 9(4), pp. 1149-1155.
- Mento, A. J., Martinelli, P., & Jones, R. M. (1999). Mind mapping in executive education: Applications and outcomes. *Journal of Management Development*, 18(4), 390–416.
- Morrison, G. R., Ross, S. M., & Kemp, J. E. (2004). *Designing effective instruction*, (4th ed.), New York, NY: John Wiley & Sons Inc.
- Muhlisin, A. (2019). Reading, Mind Mapping, and Sharing (RMS): Innovation of New Learning Model on Science Lecture to Improve Understanding Concepts. *Journal for the Education of Gifted Young Scientists*, 7(2), 323-340.
- Mullis, IVS, & Martin MO. (2021). *PIRLS 2021 assessment frameworks*, Boston:TIMSS & PIRLS International Study-Center, <https://files.eric.ed.gov/fulltext/ED606056.pdf>.
- Mustapa, I. R., Salleh, D., & Abd Mutalib, H. (2020). Cultivating Communication Skills Through Problem-Based Learning (PBL). *PROCEEDINGS OF THE INSPIRATIONAL SCHOLAR SYMPOSIUM (ISS) 2019*, 37-42.
- National Assessment Governing Board (NAGB). (2019). *Reading framework for the 2019 National Assessment of Educational Progress*. U.S. Department of

- Education. <https://www.nagb.gov/content/dam/nagb/en/documents/publications/frameworks/reading/2019-reading-framework.pdf>
- Noonan, M. (2013). Mind maps: Enhancing midwifery education. *NURSE EDUCATION TODAY*, 33, 847-852, DOI: 10.1016/j.nedt.2012.02.003.
- OECD [n. d.]. (2018). *PISA 2018 reading literacy framework*. Retrieved from <http://www.anep.edu.uy/anep/index.php/codicen-publicaciones/category/143-pisa2018?download=2162:marco-conceptual-lectura-pisa2018>.
- Pavlenkova, O., & Monakhova, E. (2018). USE OF PROBLEM-BASED LEARNING AT THE SECONDARY SCHOOL. *INTED Proceedings*, 6335-6339.
- Pears, M., & Konstantinidis, S. T. (2021). Cybersecurity Training in the Healthcare Workforce - Utilization of the ADDIE Model. *PROCEEDINGS OF THE 2021 IEEE GLOBAL ENGINEERING EDUCATION CONFERENCE (EDUCON)*, 1680-1687, DOI:10.1109/EDUCON46332.2021.9454062.
- Phongsri, P. (2008). *Educational Assessment: Concept into action*. Bangkok: Sutthakancheckpoint print.
- Polat, O., & Aydin, E. (2021). The effect of mind mapping on young children's critical thinking skills. *THINKING SKILLS AND CREATIVITY*, (38). DOI: 10.1016/j.tsc.2020.100743.
- Prabha, T., & Aziz, A. (2020). Effectiveness of Using Poly Category Mind Map for Vocabulary Development. *ARAB WORLD ENGLISH JOURNAL*, (11), (2), 214-231. DOI:10.24093/awej/vol11no2.15.
- Savery, J. R. (2015). *Essential readings in problem-based learning*, West Lafayette, Indiana: Purdue University Press.
- Reiser, R. A., & Dempsey, J. (2007). *Trends and issues in instructional design and technology* (2nd ed.). Upper Saddle River New Jersey: Pearson.
- Roshayanti, F., Wicaksono, A. G. C., & Minarti, L. B. (2018). The Effect of Problem Based Learning for Student's Environmental Literacy. *Advances in Social Science Education and Humanities Research*, (287), 207-210.

- Seckman, C., & Van de Castle, B. (2021). Understanding Digital Health Technologies Using Mind Maps. *JOURNAL OF NURSING SCHOLARSHIP*, (53)1, 7-15.
DOI:10.1111/jnu.12611.
- Selvi, R. T. & Chandramohan, G. (2018). Case Study on Effective use of Mind map in Engineering Education. *IEEE International Conference on Technology for Education*, 205-207. DOI:10.1109/T4E.2018.00053.
- Setiana, Y. H. (2018). Application of Problem Base Learning Models in Improving Soft Skills. *Advances in Social Science Education and Humanities Research*, (299), 567-571.
- Seyedinasab, S., Asghary, N., & Ghasempor, Z. (2022). Developing Prospective Mathematics Teachers' Problem Posing Competency Using General Educational Design Model (ADDIE). *Journal for Educators, Teachers and Trainers*, Vol. 13(3). 54-66, DOI:10.47750/jett.2022.13.03.006.
- Shi, Y. H., Yang, H. Y., Dou, Y. & Zeng, Y. (2022). Effects of mind mapping-based instruction on student cognitive learning outcomes: a meta-analysis. *ASIA PACIFIC EDUCATION REVIEW*, DOI10.1007/s12564-022-09746-9.
- Skelin, S., Schlueter, B., Rolle, D. & Gaedicke, G. (2008). Problem-based learning (PBL). *MONATSSCHRIFT KINDERHEILKUNDE*, 156, 452-457, DOI:10.1007/s00112-008-1727-6.
- Smaldino, S. E., Lowther, D. L., Russell, J. D., & Mims, C. (2018). *Instructional technology and media for learning* (12th ed.). Boston:Pearson Education, Inc.
- Smith, P. L., & Ragan, T. J. (2004). *INSTRUCTIONAL DESIGN* (3rd ed.). Hoboken: John Wiley & Sons Inc.
- Sofijah, Muhari, & Suhanadji. (2018). Problem Based Learning to Increase Activity and Learning Outcomes of Students Primary School. *Advances in Social Science Education and Humanities Research*, (212), 33-36.
- Song, L. (2021). A probe into the teaching methods of ancient Chinese course. *Journal of Dalian University*, (06), 140-144.
- Southwest Jiaotong University. (2022). *Curriculum of Ancient Chinese Course*. Department of Education. Southwest Jiaotong University.

- Spatioti, A.G., Kazanidis, I., & Pange, J. (2022). A Comparative Study of the ADDIE Instructional Design Model in Distance Education. *Information*, 13(2), <https://doi.org/10.3390/info13090402>.
- Stefaniak, J., & Xu, MM. (2020). An Examination of the Systemic Reach of Instructional Design Models: a Systematic Review. *TechTrends*, 64, 710-719, <https://doi.org/10.1007/s11528-020-00539-8>.
- Sun, Y., Zhang, H., Wang, H., Cheng, X., Huang, C., & Zhang, Y. (2021). Application of mind mapping combined with problem-based learning teaching method in infectious disease probation. *China Medical Herald*, (13), 64-67.
- Sundayana, R., Herman, T., Dahlan, J. A., & Prahmana, R. C. (2017). Using ASSURE learning design to develop students' mathematical communication ability. *World Transactions on Engineering and Technology Education*, 15(3), 245–249.
- Suyantiningsih, & Rahmadonna, S. (2019). Addie Model Development of Anti-Corruption Education Materials in Elementary School. *INTERNATIONAL CONFERENCE ON MEANINGFUL EDUCATION (ICMED)*, 389-396, DOI:10.18502/kss.v3i17.4664
- Tao, M. & Xie, R. P. (2021). Mind Map Based Computer Network Knowledge Graph Visualization Research and Application. *LECTURE NOTES IN ARTIFICIAL INTELLIGENCE*, 13089, p.p. 3-12 DOI10.1007/978-3-030-92836-0_1
- The Joint Committee on Standards for Educational Evaluation. (1994). *The program evaluation standards, A Guide for Evaluators and Evaluation Users* (2nd ed.), Thousand Oaks, CA: Sage.
- The Joint Committee on Standards for Educational Evaluation. (2011). *The Program Evaluation Standards: A Guide for Evaluators and Evaluation Users* (3rd ed), Thousand Oaks, CA: Sage Publications.
- Tracey, M. W., Hutchinson, A., & Grzebyk, T. Q. (2014). Instructional designers as reflective practitioners: Developing professional identity through reflection. *Educational Technology Research and Development*, 62(3), 315–334.

- Tosheva, E. (2022). TECHNOLOGY FOR CREATING MIND MAPS IN TECHNOLOGY AND ENTREPRENEURSHIP EDUCATION. *PEDAGOGIKA-PEDAGOGY*, (94), (2), 263-273. DOI:10.53656/ped2022-2.08.
- Tu, J. C., Zhang, X., & Zhang, X. Y. (2021). Basic Courses of Design Major Based on the ADDIE Model: Shed Light on Response to Social Trends and Needs. *SUSTAINABILITY*, 13(8), DOI:10.3390/su13084414.
- Ula, W. R. R., Supardi, K. I., & Sulhadi, S. (2018). The Implementation of Problem Based Learning with Mind Mapping to Improve the Student's Understanding of Concept. *Journal of Primary Educatio*, 7(2), pp.163-171, <https://doi.org/10.15294/jpe.v7i2.23089>.
- Vijayakumar, S., Arasan, P. T., & Venkateswara, U. (2023). Efficacy of ADDIE-Integrated Flipped Learning Model An Intervention Study. *INTERNATIONAL JOURNAL OF E-ADOPTION*, 15(2), DOI:10.4018/IJEA.316536.
- Wang, L. (1999). *Ancient Chinese*. Beijing:Zhonghua Book Company.
- Wang, W. C., Lee, C. C., & Chu, Y. C. (2010). A Brief Review on Developing Creative Thinking in Young Children by Mind Mapping. *International Business Research*, 3(3), pp. 233-238.
- Wang, X., & Dostal, J., (2018). Using a Mind Map to Learn English Vocabulary. *2ND INTERNATIONAL CONFERENCE ON EDUCATION AND E-LEARNING (ICEEL 2018)*, 150-153. DOI:10.1145/3291078.3291121.
- Wang, Y., Wang, J. & Sheng, H. (2015). Practice of PBL in the Reading Teaching Strategies. *ICITCE 2014 - INTERNATIONAL CONFERENCE ON INFORMATION TECHNOLOGY AND CAREER EDUCATION*, Volume 14, 01012, DOI:10.1051/shsconf/20151401012.
- Wilkerson, L., & Feletti, G. (1989). Problem-based learning: one approach to increasing student participation. *New Directions for Teaching and Learning*, (The Department Chairperson's Role in Enhancing College Teaching), 37, p.51-60.
- Wood, D. F. (2003). ABC of learning and teaching in medicine - Problem based learning. *BMJ-BRITISH MEDICAL JOURNAL*, 326, 328-330. DOI10.1136/bmj.326.7384.328.

- Wu, L. J. (2020). Research and Application on Mind Map in College Japanese Reading Teaching. *2020 3RD INTERNATIONAL CONFERENCE ON EDUCATION TECHNOLOGY AND INFORMATION SYSTEM (ETIS 2020)*, 253-257. DOI:10.23977/ETIS2020049.
- Xi, J. (2016). Speech at the Symposium on the Work of Philosophy and Social Sciences. *People's daily*, 2016-05-19, 2.
- Yang, Q., Liu, K., & Tian, D. (2020). PBL mind mapping method applied to chemical dynamics teaching. *Guangzhou Chemical Industry*, (07), 135-136.
- Zampetakis, L. A., Tsironis, L., & Moustakis, V. (2007). Creativity development in engineering education: the case of mind mapping. *Journal of Management Development*, 26(4), 370 - 380, DOI10.1108/02621710710740110.
- Zhang, Q. (2004). On Ancient Chinese Teaching. *Journal of Yangzhou college of Education*, (01), 65-69. doi:10.15977/j.cnki.cn32-1555/g4.2004.01.017.

Appendixes

Appendix A

List of Specialists and Letters of Specialists Invitation for IOC Verification

- List of experts to validate research instruments
- List of experts to evaluate the instructional model

List of experts to validate research instruments

1. Assistant Professor Dr. Sarayut Sethakajorn
Educational Administration Program, Bansomdejchaopraya Rajabhat University
2. Assistant Professor Dr. Saiphon Songsiengchai
English Program, Bansomdejchaopraya Rajabhat University
3. Assistant Professor Dr. Prapai Sridama
Computer and Technology Program, Bansomdejchaopraya Rajabhat University
4. Professor Dr. Lei Li
Linguistics and Applied Linguistics Program, Sichuan University
5. Professor Dr. Yang Anwen
Translatology Program, Southwest Jiaotong University

List of experts to evaluate the instructional model

1. Associate Professor Dr. Jittawisut Wimutipanya
Science Program, Bansomdejchaopraya Rajabhat University
2. Assistant Professor Dr. Wanida Ploysangwal
English Program, University of the Thai Chamber of Commerce
3. Dr. Panas Jansritong
Educational Administration Program, Krirk University
4. Associate Professor Dr. Wang Junqi
Chinese Literature Program, Southwest Jiaotong University
5. Associate Professor Dr. Li Hao
Chinese Teaching Program, Southwest Jiaotong University

Appendix B

Official Letter

- Research tool validation request
- Instructional model evaluation request
- Data collection request
- Permission of experimental implementation

Ref. No. MHESI 0643.14/GS 16



Graduate School
Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

18 April 2023

Subject Request for permission to implement experiment

Dear President of Southwest Jiaotong University

Regarding the thesis entitled *“Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University”* of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomdejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Associate Professor Dr. Suriya Phankosol as co-advisors, the researcher needs to implement an experiment in compliance with approved methodology and collect data in terms of ancient Chinese reading summarizing ability from 21 students from class 1 who enroll in ancient Chinese course at International Chinese Department, School of Foreign Languages, Southwest Jiaotong University during the 1st Semester of academic year 2022. Hence, I’m formally requesting permission to implement the experiment and access the aforementioned data.

The researcher plans to use this data for her thesis completion and further necessary publication as required by the Ph.D. course.

I am grateful for your consideration of my request. I pledge to adhere to any stipulations you deem fit. You may reach me at the phone number or email address provided below in case of any related questions. I look forward to your response.

Sincerely

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000

Fax. (662) 4737000

Ref. No. MHESI 0643.14/ GS 28



Graduate School
Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

18 April 2023

Subject Request for research tool validation

Dear Assistant Professor Dr. Saiphon Songsiangchai

Attachment Validation sheets

Regarding the thesis entitled “*Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University*” of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomdejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Associate Professor Dr. Suriya Phankosol as co-advisors, the written pretest-posttest and questionnaire as instruments will be used in the said research. In view with this, the researcher would like your expertise to validate the attached pretest-posttest and questionnaires to qualify for conduction. Knowing your experience in the field of Education, I would like to ask for your help in validating the said instrument before administering it to the participants of the study.

The research objective, definitions of terms, the pretest-posttest, questionnaire and the validation sheets are hereby attached. I will be glad to hear your suggestions and comments for the improvement of the instrument. Your positive response is highly appreciated.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000

Ref. No. MHESI 0643.14/ GS 27



Graduate School
Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

18 April 2023

Subject Request for research tool validation

Dear Assistant Professor Dr. Prapai Sridama

Attachment Validation sheets

Regarding the thesis entitled “*Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University*” of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Associate Professor Dr. Suriya Phankosol as co-advisors, the written pretest-posttest and questionnaire as instruments will be used in the said research. In view with this, the researcher would like your expertise to validate the attached pretest-posttest and questionnaires to qualify for conduction. Knowing your experience in the field of Education, I would like to ask for your help in validating the said instrument before administering it to the participants of the study.

The research objective, definitions of terms, the pretest-posttest, questionnaire and the validation sheets are hereby attached. I will be glad to hear your suggestions and comments for the improvement of the instrument. Your positive response is highly appreciated.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomejchaopraya Rajabhat University

Tel. (662) 4737000
Fax. (662) 4737000

Ref. No. MHESI 0643.14/ **GS26**



Graduate School
Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

18 April 2023

Subject Request for research tool validation

Dear Professor Dr. Lei Li

Attachment Validation sheets

Regarding the thesis entitled “*Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University*” of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomdejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Associate Professor Dr. Suriya Phankosol as co-advisors, the written pretest-posttest and questionnaire as instruments will be used in the said research. In view with this, the researcher would like your expertise to validate the attached pretest-posttest and questionnaires to qualify for conduction. Knowing your experience in the field of Education, I would like to ask for your help in validating the said instrument before administering it to the participants of the study.

The research objective, definitions of terms, the pretest-posttest, questionnaire and the validation sheets are hereby attached. I will be glad to hear your suggestions and comments for the improvement of the instrument. Your positive response is highly appreciated.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000
Fax. (662) 4737000

Ref. No. MHESI 0643.14/ ~~GS~~ 25



Graduate School
Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

18 April 2023

Subject Request for research tool validation

Dear Professor Dr. Yang Anwen

Attachment Validation sheets

Regarding the thesis entitled “*Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University*” of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomdejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Associate Professor Dr. Suriya Phankosol as co-advisors, the written pretest-posttest and questionnaire as instruments will be used in the said research. In view with this, the researcher would like your expertise to validate the attached pretest-posttest and questionnaires to qualify for conduction. Knowing your experience in the field of Education, I would like to ask for your help in validating the said instrument before administering it to the participants of the study.

The research objective, definitions of terms, the pretest-posttest, questionnaire and the validation sheets are hereby attached. I will be glad to hear your suggestions and comments for the improvement of the instrument. Your positive response is highly appreciated.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000

Ref. No. MHESI 0643.14/ *CS 24*



Graduate School
Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

18 April 2023

Subject Request for evaluation of instructional model

Dear Associate Professor Jittawisut Wimutipanya

Attachment Evaluation sheets

Regarding the thesis entitled *“Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University”* of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomdejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Professor Dr. Liu Jiafang as co-advisors, the instructional model will be developed in the said research. In view with this, the researcher would like your expertise to evaluate the appropriateness of such a developed instructional model. Knowing your experience in the field of Education, I would like to ask for your help in evaluating the said instructional model before its implementation.

I will be glad to hear your suggestions and comments for the improvement of the instructional model. Your positive response is highly appreciated.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000
Fax. (662) 4737000

Ref. No. MHESI 0643.14/ GS 23



Graduate School
Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

18 April 2023

Subject Request for evaluation of instructional model

Dear Assistant Professor Dr. Wanida Ploysangwal

Attachment Evaluation sheets

Regarding the thesis entitled *“Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University”* of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomdejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Associate Professor Dr. Suriya Phankosol as co-advisors, the instructional model will be developed in the said research. In view with this, the researcher would like your expertise to evaluate the appropriateness of such a developed instructional model. Knowing your experience in the field of Education, I would like to ask for your help in evaluating the said instructional model before its implementation.

I will be glad to hear your suggestions and comments for the improvement of the instructional model. Your positive response is highly appreciated.

Sincerely,

A handwritten signature in blue ink, appearing to be 'Kanakorn Sawangcharoen'.

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000
Fax. (662) 4737000

Ref. No. MHESI 0643.14/ ๒๕๖๕ ๒๑



Graduate School
Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

๑๘ April 2023

Subject Request for evaluation of instructional model

Dear Dr. Panas Jansritong

Attachment Evaluation sheets

Regarding the thesis entitled *“Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University”* of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomdejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Associate Professor Dr. Suriya Phankosol as co-advisors, the instructional model will be developed in the said research. In view with this, the researcher would like your expertise to evaluate the appropriateness of such a developed instructional model. Knowing your experience in the field of Education, I would like to ask for your help in evaluating the said instructional model before its implementation.

I will be glad to hear your suggestions and comments for the improvement of the instructional model. Your positive response is highly appreciated.

Sincerely,

A handwritten signature in blue ink, appearing to be 'Kanakorn Sawangcharoen'.

(Assistant Professor Dr.Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000

Ref. No. MHESI 0643.14/ GS 21



Graduate School
Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

18 April 2023

Subject Request for evaluation of instructional model

Dear Associate Professor Dr. Wang Junqi

Attachment Evaluation sheets

Regarding the thesis entitled *“Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University”* of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomdejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Associate Professor Dr. Suriya Phankosol as co-advisors, the instructional model will be developed in the said research. In view with this, the researcher would like your expertise to evaluate the appropriateness of such a developed instructional model. Knowing your experience in the field of Education, I would like to ask for your help in evaluating the said instructional model before its implementation.

I will be glad to hear your suggestions and comments for the improvement of the instructional model. Your positive response is highly appreciated.

Sincerely,

A handwritten signature in blue ink, appearing to be 'Kanakorn Sawangcharoen'.

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000

Ref. No. MHESI 0643.14/GS 20



Graduate School
Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

๑๘ April 2023

Subject Request for evaluation of instructional model

Dear Associate Professor Dr. Li Hao

Attachment Evaluation sheets

Regarding the thesis entitled “*Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University*” of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomdejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Associate Professor Dr. Suriya Phankosol as co-advisors, the instructional model will be developed in the said research. In view with this, the researcher would like your expertise to evaluate the appropriateness of such a developed instructional model. Knowing your experience in the field of Education, I would like to ask for your help in evaluating the said instructional model before its implementation.

I will be glad to hear your suggestions and comments for the improvement of the instructional model. Your positive response is highly appreciated.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000
Fax. (662) 4737000

Ref. No. MHESI 0643.14/GS 19



Graduate School
Bansomejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

19 April 2023

Subject Request for data collection

Dear President of Sichuan University

Attachment 1. 60 copies of questionnaire
2. interview papers

Regarding the thesis entitled "*Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University*" of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Associate Professor Dr. Suriya Phankosol as co-advisors, the researcher needs to collect data using questionnaire in terms of factors affecting ancient Chinese reading summarizing ability from 60 students and 2 lecturers of Sichuan University. Hence, I'm formally requesting your assistance in distributing the attached questionnaire to the informants as referred above and please send the completed ones back to the researcher via: 5-2-2501, Jiliuyuan, No. 822, Campus Road, Xipu Town, Pidu District, Chengdu, Sichuan.

The researcher plans to use this data for her thesis completion and further necessary publication as required by the Ph.D. course.

I am grateful for your consideration of my request. I pledge to adhere to any stipulations you deem fit. You may reach me at the phone number or email address provided below in case of any related questions. I look forward to your response.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000

Ref. No. MHESI 0643.14/GS18



Graduate School
Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

18 April 2023

Subject Request for data collection

Dear President of Southwest Minzu University

Attachment 1. 60 copies of questionnaire
2. interview papers

Regarding the thesis entitled *“Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University”* of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Associate Professor Dr. Suriya Phankosol as co-advisors, the researcher needs to collect data using questionnaire in terms of factors affecting ancient Chinese reading summarizing ability from 60 students and 2 lecturers of Sichuan University. Hence, I’m formally requesting your assistance in distributing the attached questionnaire to the informants as referred above and please send the completed ones back to the researcher via: 5-2-2501, Jiliuyuan, No. 822, Campus Road, Xipu Town, Pidu District, Chengdu, Sichuan.

The researcher plans to use this data for her thesis completion and further necessary publication as required by the Ph.D. course.

I am grateful for your consideration of my request. I pledge to adhere to any stipulations you deem fit. You may reach me at the phone number or email address provided below in case of any related questions. I look forward to your response.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomejchaopraya Rajabhat University

Tel. (662) 4737000
Fax. (662) 4737000

Ref. No. MHESI 0643.14/ GS 17



Graduate School
Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

18 April 2023

Subject Request for data collection

Dear President of Southwest Jiaotong University

Attachment 1. 60 copies of questionnaire
2. interview papers

Regarding the thesis entitled "*Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University*" of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomdejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Associate Professor Dr. Suriya Phankosol as co-advisors, the researcher needs to collect data using questionnaire in terms of factors affecting ancient Chinese reading summarizing ability from 60 students and 2 lecturers of Sichuan University. Hence, I'm formally requesting your assistance in distributing the attached questionnaire to the informants as referred above and please send the completed ones back to the researcher via: 5-2-2501, Jiliuyuan, No. 822, Campus Road, Xipu Town, Pidu District, Chengdu, Sichuan.

The researcher plans to use this data for her thesis completion and further necessary publication as required by the Ph.D. course.

I am grateful for your consideration of my request. I pledge to adhere to any stipulations you deem fit. You may reach me at the phone number or email address provided below in case of any related questions. I look forward to your response.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000
Fax. (662) 4737000

Ref. No. MHESI 0643.14/GS 16



Graduate School
Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

18 April 2023

Subject Request for permission to implement experiment

Dear President of Southwest Jiaotong University

Regarding the thesis entitled “*Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students in Southwest Jiaotong University*” of Ms. Zhang Jie, a Ph.D. student majoring in Curriculum and Instruction Programme at Bansomdejchaopraya Rajabhat University code number 6373103120, Thailand under the supervision of Assistant Professor Dr. Wapee Kong-in as major advisor and Associate Professor Dr. Areewan Iamsa-ard and Associate Professor Dr. Suriya Phankosol as co-advisors, the researcher needs to implement an experiment in compliance with approved methodology and collect data in terms of ancient Chinese reading summarizing ability from 21 students from class 1 who enroll in ancient Chinese course at International Chinese Department, School of Foreign Languages, Southwest Jiaotong University during the 1st Semester of academic year 2022. Hence, I’m formally requesting permission to implement the experiment and access the aforementioned data.

The researcher plans to use this data for her thesis completion and further necessary publication as required by the Ph.D. course.

I am grateful for your consideration of my request. I pledge to adhere to any stipulations you deem fit. You may reach me at the phone number or email address provided below in case of any related questions. I look forward to your response.

Sincerely

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate School
Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000

Appendix C
Research Instrument

Table Appendix 1: Evaluation Results of IOC for Factor Analysis (For Students)

No	Item	Experts' rating					Total	Mean	Results
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
Section 1	Common data of the respondent								
1	Gender <input type="checkbox"/> A. Male <input type="checkbox"/> B. Female	+1	+1	+1	+1	+1	5	1.00	Valid
2	University <input type="checkbox"/> A. Sichuan University <input type="checkbox"/> B. Southwest Minzu University <input type="checkbox"/> C. Southwest Jiaotong University	+1	+1	+1	+1	+1	5	1.00	Valid
3	Age <input type="checkbox"/> A. 18 yrs. <input type="checkbox"/> B. 19 yrs. <input type="checkbox"/> C. 20 yrs. <input type="checkbox"/> D. 21 yrs. <input type="checkbox"/> E. other yrs.	+1	+1	+1	+1	+1	5	1.00	Valid
Section 2	Factors								
	Factor 1: Internal Factors								
1	Students think that ancient Chinese course is very important.	+1	+1	+1	+1	+1	5	1.00	Valid
2	Students think that ancient Chinese course is a compulsory course.	+1	-1	+1	0	+1	2	0.40	Invalid
3	Students think that learning ancient Chinese course is beneficial to their development.	0	+1	+1	+1	+1	4	0.80	Valid
4	Students are very interested in learning ancient Chinese course.	+1	+1	+1	+1	+1	5	1.00	Valid
5	Students actively learn ancient Chinese reading summarizing ability.	+1	+1	+1	+1	+1	5	1.00	Valid
6	Students think that ancient Chinese reading summarizing ability is very useful.	+1	+1	+1	+1	+1	5	1.00	Valid
7	Students believe that the ancient Chinese course is moderately difficult.	+1	+1	0	+1	+1	4	0.80	Valid
8	Students believe that the learning objectives of ancient Chinese course are clear.	+1	+1	+1	+1	+1	5	1.00	Valid

No	Item	Experts' rating					Total	Mean	Results
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
9	Students like the teacher of ancient Chinese course.	+1	+1	0	+1	0	3	0.60	Valid
10	Students think that the teacher can arrange the teaching steps well.	+1	+1	+1	+1	+1	5	1.00	Valid
11	Students can actively follow the teacher's teaching steps.	+1	+1	+1	+1	+1	5	1.00	Valid
12	Students can actively participate in classroom activities.	+1	+1	+1	+1	+1	5	1.00	Valid
13	Students have the spirit of seeking knowledge and exploration.	+1	+1	+1	+1	+1	5	1.00	Valid
14	Students think the interaction between teachers and students is necessary.	+1	+1	+1	+1	+1	5	1.00	Valid
15	Students believe that friendly cooperation and interaction between students are necessary.	+1	+1	+1	+1	+1	5	1.00	Valid
16	Students are willing to abide by the teaching order and do not be late, leave early or absent.	0	+1	+1	+1	-1	2	0.40	Invalid
	Factor 2: External factors								
17	The teacher's friendliness and teaching skills affect students' learning effect.	+1	+1	0	+1	+1	4	0.80	Valid
18	The teacher can use modern teaching methods in the teaching process, not rigidly adhere to traditional teaching methods.	+1	+1	+1	+1	+1	5	1.00	Valid
19	The teacher is good at using modern information technology in the teaching process to improve students' interest in learning and expand their knowledge.	+1	+1	+1	+1	+1	5	1.00	Valid
20	The teacher emphasizes the active participation of students in the teaching process.	+1	+1	+1	+1	+1	5	1.00	Valid
21	The teacher pays attention to mutual communication and cooperation between students in the teaching process.	+1	+1	+1	+1	+1	5	1.00	Valid

No	Item	Experts' rating					Total	Mean	Results
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
22	It is very important for the teacher to objectively evaluate students' performance and learning effects.	+1	+1	+1	+1	+1	5	1.00	Valid
23	In evaluating students' grades, the teacher not only uses summative assessment method, but also use formative evaluation method.	+1	+1	+1	0	+1	4	0.80	Valid
24	The teaching materials are of interest to students, and conducive to students' seeking more knowledge.	+1	+1	+1	+1	0	4	0.80	Valid
25	The teaching materials are challenging to some extent and can expands students' thinking.	+1	+1	+1	+1	+1	5	1.00	Valid
26	The teaching method is lively and vivid, attracting students' attention through visual forms.	+1	+1	+1	+1	+1	5	1.00	Valid
27	Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students' information processing.	+1	+1	+1	+1	+1	5	1.00	Valid
28	The proposal and resolution of problems can stimulate students' learning, thinking and discussion.	+1	+1	+1	+1	+1	5	1.00	Valid
29	Classroom teaching steps are compact and orderly, balancing stress and relaxation to students.	+1	+1	+1	+1	+1	5	1.00	Valid
30	There are many classroom activities suitable for students to participate, emphasizing the students-centered conception.	+1	+1	+1	+1	+1	5	1.00	Valid
31	Classroom activities can promote discussion and communication among students and promote their sense of teamwork.	+1	+1	+1	+1	+1	5	1.00	Valid
32	Classroom activities are challenging to some extent and can fully mobilize students' subjective initiative.	+1	+1	+1	+1	+1	5	1.00	Valid

No	Item	Experts' rating					Total	Mean	Results
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
33	Teaching activities can fully display students' personalized learning outcomes and satisfy students' sense of learning achievement.	+1	+1	+1	+1	+1	5	1.00	Valid
34	The university classroom is quiet and undisturbed, and the teaching equipment is in good condition.	+1	0	-1	0	+1	1	0.20	Invalid
35	The teaching environment allows students to relax without pressure.	+1	+1	+1	+1	0	4	0.80	Valid
36	Classroom order and rules conform to the university rules and suitable for students' learning psychology.	0	+1	0	+1	0	2	0.40	Invalid
37	The learning atmosphere among students is very friendly.	+1	+1	+1	+1	+1	5	1.00	Valid
38	The teaching atmosphere between the teacher and students is very friendly.	+1	+1	+1	+1	+1	5	1.00	Valid
Total Average Score								0.889	Valid

Note: Valid when ≥ 0.50

Table Appendix 2: Evaluation Results of IOC for Factor Analysis (For Lecturers)

No	Item	Experts' rating					Total	Mean	Results
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
Section 1	Common data of the respondent								
1	Gender is <input type="checkbox"/> A. Male <input type="checkbox"/> B. Female	+1	+1	+1	+1	+1	5	1.00	Valid
2	Lecturers from <input type="checkbox"/> A. Sichan University <input type="checkbox"/> B. Southwest Minzu University <input type="checkbox"/> C. Southwest JiaotongUniversity	+1	+1	+1	+1	+1	5	1.00	Valid
3	Experience teaching Ancient Chinese course in your university <input type="checkbox"/> A. Below 3 yrs. <input type="checkbox"/> B. 4-6 yrs. <input type="checkbox"/> C. 7- 9 yrs. <input type="checkbox"/> D. Over 10 yrs.	+1	+1	+1	+1	+1	5	1.00	Valid
4	Age <input type="checkbox"/> A. below 30 yrs. <input type="checkbox"/> B. 30-40 yrs. <input type="checkbox"/> C. 41-50 yrs. <input type="checkbox"/> D. over 50 yrs.	+1	+1	+1	+1	+1	5	1.00	Valid
5	Professional title <input type="checkbox"/> A. Assistant <input type="checkbox"/> B. Lecturer <input type="checkbox"/> C. Associate professor <input type="checkbox"/> D. Professor	+1	+1	+1	+1	+1	5	1.00	Valid
Section 2	Questions								
1	Why do you accept or select to teach ancient Chinese course? (Example, like teaching this course, excel in teaching this course, be required to teach, or for other reasons).	+1	+1	+1	+1	+1	5	1.00	Valid
2	Please talk about the students' performance in learning ancient Chinese courses? How do students evaluate your course?	+1	+1	+1	+1	+1	5	1.00	Valid
3	Please talk about the necessity and importance of students' ancient Chinese reading summarizing ability in the course.	+1	+1	+1	+1	+1	5	1.00	Valid
4	What kind of teaching aspects do you think can enhance students' ancient Chinese reading summarizing ability? (Example, teaching objectives, teaching content, teaching materials, teaching method, teaching tools, teaching steps and activities, etc.)	+1	+1	+1	+1	+1	5	1.00	Valid

No	Item	Experts' rating					Total	Mean	Results
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
5	What is your opinion on increasing opportunities and time for students to participate in discussions and group activities in the classroom? What kind of classroom arrangement do you think can help improve students' classroom participation and activity?	+1	+1	+1	+1	+1	5	1.00	Valid
6	What teaching methods do you think can stimulate students' thinking and exploration of knowledge?	+1	+1	+1	+1	+1	5	1.00	Valid
7	What kind of teaching activities do you think can fully showcase students' learning achievements and satisfy their sense of academic achievement?	+1	+1	+1	+1	+1	5	1.00	Valid
8	What is your understanding of PBL (Problem-Based Learning)? What is your opinion on applying PBL (Problem-Based Learning) to ancient Chinese course to enhance students' reading summarizing ability?	+1	+1	+1	+1	+1	5	1.00	Valid
9	What is your understanding of Mind Mapping? What is your opinion on applying Mind Mapping to ancient Chinese course to enhance students' reading summarizing ability?	+1	+1	+1	+1	+1	5	1.00	Valid
10	What is your opinion on integrating Mind Mapping with Problem-Based Learning (PBL) to teach ancient Chinese course and enhance students' reading summarizing ability? How do you think its feasibility and effectiveness will be?	+1	+1	+1	+1	+1	5	1.00	Valid
	Total Average Score							1.00	Valid

Note: Valid when ≥ 0.50 .

Table Appendix 3: Evaluation Results of IOC for Instructional Model Appropriateness

No.	Items	Experts' rating										Total				
		Expert 1		Expert 2		Expert 3		Expert 4		Expert 5		Agree		Disagree		
		Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Frequency	Percentage	Frequency	Percentage	
1	Principle and Rationale:															
	Utility Standard															
	1. The result of questionnaires from students have the benefit for Principle and Rationale	✓		✓		✓		✓		✓		5	100	0	0	
	2. The result of interview from lecturers have the benefit for Principle and Rationale Feasibility Standard	✓		✓		✓		✓		✓		5	100	0	0	
	3. The result of questionnaires from students have the possibility for Principle and Rationale	✓		✓		✓		✓		✓		5	100	0	0	
	4. The result of interview from lecturers have the possibility for Principle and Rationale	✓		✓		✓		✓		✓		5	100	0	0	
	Propriety Standard															
	5. The result of questionnaires from students have the suitability for Principle and Rationale	✓		✓		✓		✓		✓		5	100	0	0	
	6. The result of interview from lecturers have the suitability for Principle and Rationale	✓		✓		✓		✓		✓		5	100	0	0	
	Accuracy Standard															
7. The result of questionnaire from students have the accuracy for Principle and Rationale	✓		✓		✓		✓		✓		5	100	0	0		
8. The result of interview from lecturers have the accuracy for Principle and Rationale	✓		✓		✓		✓		✓		5	100	0	0		

No.	Items	Experts' rating										Total			
		Expert 1		Expert 2		Expert 3		Expert 4		Expert 5		Agree		Disagree	
		Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Frequency	Percentage	Frequency	Percentage
2	Objectives:														
	Utility Standard														
	9. The objectives have benefit for students.	✓		✓		✓		✓		✓		5	100	0	0
	Feasibility Standard														
	10. The objectives have possibility for students.	✓		✓		✓		✓		✓		5	100	0	0
	Propriety Standard														
	11. The objectives have suitability for students.	✓		✓		✓		✓		✓		5	100	0	0
Accuracy Standard															
	12. The objectives have accuracy for students.	✓		✓		✓		✓		✓		5	100	0	0
3	Contents:														
	Utility Standard														
	13. The contents have benefit for students.	✓		✓		✓		✓		✓		5	100	0	0
	Feasibility Standard														
	14. The contents have possibility for students.	✓		✓		✓		✓		✓		5	100	0	0
	Propriety Standard														
	15. The contents have suitability for students.	✓		✓		✓		✓		✓		5	100	0	0
Accuracy Standard															
	16. The contents have accuracy for students.	✓		✓		✓		✓		✓		5	100	0	0
4	Methods of teaching & materials: Mind Mapping and Problem-Based Learning instructional model														
	Utility Standard														
	17. The methods of teaching & materials have benefit for students.	✓		✓		✓		✓		✓		5	100	0	0
	Feasibility Standard														
	18. The methods of teaching & materials have possibility for students.	✓		✓		✓		✓		✓		5	100	0	0
	Propriety Standard														
	19. The methods of teaching & materials have suitability for students.	✓		✓		✓		✓		✓		5	100	0	0
Accuracy Standard															
	20. The methods of teaching & materials have accuracy for students.	✓		✓		✓		✓		✓		5	100	0	0

No.	Items	Experts' rating										Total			
		Expert 1		Expert 2		Expert 3		Expert 4		Expert 5		Agree		Disagree	
		Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Frequency	Percentage	Frequency	Percentage
5	Evaluation:														
	Utility Standard														
	21. The evaluation has benefit for students.	✓		✓		✓		✓		✓		5	100	0	0
	Feasibility Standard														
	22. The evaluation has possibility for students.	✓		✓		✓		✓		✓		5	100	0	0
	Propriety Standard														
	23. The evaluation has suitability for students.	✓		✓		✓		✓		✓		5	100	0	0
	Accuracy Standard														
24. The evaluation has accuracy for students.	✓		✓		✓		✓		✓		5	100	0	0	

From table appendix 3 above, the appropriateness of Mind Mapping and Problem-Based Learning instructional model is unanimously confirmed by 5 experts in terms of utility (100%), feasibility (100%), propriety (100%), and accuracy (100%).

Table Appendix 4: Evaluation Results of IOC for Lesson Plans by 5 experts

No	Item	Experts' rating					Total	MEAN	Results
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
	Learning Objectives								
1	Complying with content of the course	+1	+1	+1	+1	+1	5.00	1.00	Valid
2	Covering knowledge, process, and attitude	+1	+1	+1	+1	+1	5.00	1.00	Valid
3	Being measurable in 3 aspects	+1	+1	+1	+1	+1	5.00	1.00	Valid
	Contents								
4	Complying with learning objective	+1	+1	+1	+1	+1	5.00	1.00	Valid
5	Being appropriate in terms of time	+1	+1	+1	+1	+1	5.00	1.00	Valid
	Mind Mapping and Problem-Based Learning Instructional Model								
6	Complying with the designed instructional model	+1	+1	+1	+1	+1	5.00	1.00	Valid
7	Supporting students' learning	+1	+1	+1	+1	+1	5.00	1.00	Valid
8	Including various activities	+1	+1	+1	+1	+1	5.00	1.00	Valid
	Learning materials								
9	Complying with the learning objectives	+1	+1	+1	+1	+1	5.00	1.00	Valid
10	Complying with the content	+1	+1	+1	+1	+1	5.00	1.00	Valid
	Evaluation and assessment								
11	Complying with the learning objective	+1	+1	+1	+1	+1	5.00	1.00	Valid
12	Including various methods and instruments	+1	+1	+1	+1	+1	5.00	1.00	Valid
Total (In Overview)							60	1.00	Valid

Note: Valid when ≥ 0.50

Table Appendix 5: Evaluation Results of IOC for Testing Papers

Learning Objectives	No.	Experts' rating					Total	MEAN	Results	
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5				
Learning Objective 1: Catch the main idea of each paragraph (P)	1	+1	0	+1	-1	+1	2	0.40	Invalid	
	2	+1	+1	+1	+1	+1	5	1.00	Valid	
	3	+1	+1	+1	+1	+1	5	1.00	Valid	
	4	+1	+1	+1	+1	+1	5	1.00	Valid	
	5	+1	+1	+1	+1	0	4	0.80	Valid	
	6	+1	+1	+1	+1	+1	5	1.00	Valid	
	7	+1	+1	+1	+1	+1	5	1.00	Valid	
	8	+1	+1	0	+1	-1	2	0.40	Invalid	
	9	+1	+1	+1	+1	+1	5	1.00	Valid	
	10	+1	+1	+1	+1	+1	5	1.00	Valid	
	11	+1	+1	+1	+1	+1	5	1.00	Valid	
	12	+1	+1	+1	+1	+1	5	1.00	Valid	
Learning Objective 2: Interpret ideas and information (K)	1) explain the meanings of ideas and information	1	+1	+1	+1	+1	+1	5	1.00	Valid
		2	0	+1	+1	+1	+1	4	0.80	Valid
		3	+1	+1	+1	+1	+1	5	1.00	Valid
		4	+1	+1	+1	+1	+1	5	1.00	Valid
		5	+1	+1	+1	+1	+1	5	1.00	Valid
		6	+1	+1	+1	-1	-1	1	0.20	Invalid
	2) generalize ideas and information not explicitly stated in the text	7	+1	+1	+1	+1	+1	5	1.00	Valid
		8	+1	+1	+1	+1	+1	5	1.00	Valid
		9	+1	+1	+1	+1	+1	5	1.00	Valid
		10	+1	+1	+1	-1	0	2	0.40	Invalid
		11	+1	+1	+1	+1	+1	5	1.00	Valid
		12	+1	+1	+1	+1	+1	5	1.00	Valid
Learning Objective 3: Integrate ideas and information (P)	1) answering questions across related texts	1	+1	+1	+1	+1	+1	5	1.00	Valid
		2	+1	+1	+1	+1	+1	5	1.00	Valid
		3	+1	0	+1	+1	-1	2	0.40	Invalid
		4	+1	+1	+1	+1	+1	5	1.00	Valid
		5	+1	+1	+1	+1	+1	5	1.00	Valid
		6	+1	+1	+1	+1	+1	5	1.00	Valid
	2) comparing ideas and information across related texts	7	+1	+1	+1	+1	+1	5	1.00	Valid
		8	+1	0	+1	-1	+1	2	0.40	Invalid
		9	+1	+1	+1	+1	+1	5	1.00	Valid
		10	+1	+1	+1	+1	+1	5	1.00	Valid
		11	+1	+1	+1	+1	+1	5	1.00	Valid
		12	+1	+1	+1	+1	0	4	0.80	Valid
Learning Objective 4: Evaluate and critique content (P)	1) evaluate: form judgement about content	1	+1	+1	+1	+1	+1	5	1.00	Valid
		2	+1	+1	+1	+1	+1	5	1.00	Valid
		3	+1	+1	0	-1	+1	2	0.40	Invalid
		4	+1	+1	+1	+1	+1	5	1.00	Valid
		5	+1	+1	+1	+1	+1	5	1.00	Valid
		6	+1	+1	+1	+1	+1	5	1.00	Valid
	2) critique: offer both negative and positive analysis of the content, writing, and structure of a text	7	+1	+1	+1	+1	+1	5	1.00	Valid
		8	+1	+1	+1	+1	+1	5	1.00	Valid
		9	0	+1	+1	+1	-1	2	0.40	Invalid
		10	+1	+1	+1	+1	+1	5	1.00	Valid
		11	+1	+1	+1	+1	+1	5	1.00	Valid
		12	+1	+1	+1	+1	+1	5	1.00	Valid
Total (In Overview)							212	0.883	Valid	

Note: Valid when ≥ 0.50 .

Appendix D

The Results of the Quality Analysis of Research Instruments

- Questionnaire for Students
- Interview for Lecturers
- Lesson Plan
- Testing Paper

Questionnaire for Students on Factors Affecting Ancient Chinese Reading Summarizing Ability of Undergraduate Students in Sichuan Province

Directions:

These questionnaires are the instruments for collecting data in 1st phase of the research entitled “Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students: A Case Study in Southwest Jiaotong University” conducted by Zhang Jie, a Ph.D. student in Curriculum and Instruction Programme at Bansomdejchaopraya Rajabhat University under the supervision of Assistant Professor Dr. Areewan Iamsa-ard, majoring advisor, Associate Professor Dr. Wapee Kong-In and Associate Professor Dr. Suriya Phankosol, co-advisor.

This questionnaire is divided into 3 sections i.e.

Section 1 Common data of the respondent

Section 2 The information on factors affecting ancient Chinese reading summarizing ability for undergraduate students in Sichuan province.

The questionnaire type is the Closed-ended questions that can only be answered by selecting from provided 5 numbers to summated rating scale (Likert scale).

The important issues of the items consist of two groups of the factors: Internal factors (respondents) and External factors (lecturers, instructional model, circumstances, etc.)

Section 3 Further suggestions

Data obtained from this questionnaire are only used for the purpose of conducting aforementioned research and remain confidential. Individual or personal data presentation will be avoided.

Answer the questionnaire:

Section 1 Common data of the respondent

Directions: Please put ✓ into the according to your own personal data.

- | | | |
|------------------|---|-------------------------------------|
| 1. Gender is | <input type="checkbox"/> A. Male | <input type="checkbox"/> B. Female |
| 2. Students from | <input type="checkbox"/> A. Sichan University | |
| | <input type="checkbox"/> B. Southwest Minzu University | |
| | <input type="checkbox"/> C. Southwest Jiaotong University | |
| 3. Age | <input type="checkbox"/> A. 18 yrs. | <input type="checkbox"/> B. 19 yrs. |
| | <input type="checkbox"/> C. 20 yrs. | <input type="checkbox"/> D. 21 yrs. |
| | <input type="checkbox"/> E. other yrs. | |

Section 2 The information on factors affecting ancient Chinese reading summarizing ability for undergraduate students in Sichuan province.

Directions: Please rate the following factors affecting ancient Chinese reading summarizing ability for undergraduate students in Sichuan province by putting ✓ into the attitude level column based on the criteria given below. Each question can select only one answer.

- 5 means you STRONGLY agree with the item.
- 4 means you QUITE agree with the item.
- 3 means you remain NEUTRAL.
- 2 means you DO NOT QUITE agree with the item
- 1 means you DO NOT STRONGLY agree with the item

Questions	Answers				
	5	4	3	2	1
Internal factors (respondents)					
1. Students think that ancient Chinese course is very important.					
2. Students think that learning ancient Chinese course is beneficial to their development.					
3. Students are very interested in learning ancient Chinese course.					
4. Students actively learn ancient Chinese reading summarizing ability.					
5. Students think that ancient Chinese reading summarizing ability is very useful.					
6. Students believe that the ancient Chinese course is moderately difficult.					
7. Students believe that the learning objectives of ancient Chinese course are clear.					
8. Students like the teacher of ancient Chinese course.					
9. Students think that the teacher can arrange the teaching steps well.					
10. Students can actively follow the teacher's teaching steps.					
11. Students can actively participate in classroom activities.					
12. Students have the spirit of seeking knowledge and exploration.					
13. Students think the interaction between teachers and students is necessary.					
14. Students believe that friendly cooperation and interaction between students are necessary.					
External factors (teachers, instructional model, environment)					
15. The teacher's friendliness and teaching skills affect students' learning effect.					
16. The teacher can use modern teaching methods in the teaching process, not rigidly adhere to traditional teaching methods.					
17. The teacher is good at using modern information technology in the teaching process to improve students' interest in learning and expand their knowledge.					
18. The teacher emphasizes the active participation of students in the teaching process.					
19. The teacher pays attention to mutual communication and cooperation between students in the teaching process.					

Questions	Answers				
	5	4	3	2	1
20. It is very important for the teacher to objectively evaluate students' performance and learning effects.					
21. In evaluating students' grades, the teacher not only uses summative assessment method, but also use formative evaluation method.					
22. The teaching materials are of interest to students, and conducive to students' seeking more knowledge.					
23. The teaching materials are challenging to some extent and can expands students' thinking.					
24. The teaching method is lively and vivid, attracting students' attention through visual forms.					
25. Analyzing the structure of the article and presenting it in a graphic and textual manner is beneficial for students' information processing.					
26. The proposal and resolution of problems can stimulate students' learning, thinking and discussion.					
27. Classroom teaching steps are compact and orderly, balancing stress and relaxation to students.					
28. There are many classroom activities suitable for students to participate, emphasizing the students-centered conception.					
29. Classroom activities can promote discussion and communication among students and promote their sense of teamwork.					
30. Classroom activities are challenging to some extent and can fully mobilize students' subjective initiative.					
31. Teaching activities can fully display students' personalized learning outcomes and satisfy students' sense of learning achievement.					
32. The teaching environment allows students to relax without pressure.					
33. The learning atmosphere among students is very friendly.					
34. The teaching atmosphere between the teacher and students is very friendly.					

Section 3 Suggestions for improving the better instruction

.....

.....

Thank you for your kind cooperation for completing the questionnaire!

Researcher
Mrs. Zhang Jie

Interview for Lecturers on Factors Affecting Ancient Chinese Reading Summarizing Ability of Undergraduate Students in Sichuan Province

Directions:

This interview is the instrument for collecting data in 1st phase of the research entitled “Integration of Mind Mapping and Problem-Based Learning Instructional Model to Enhance Ancient Chinese Reading Summarizing Ability for Undergraduate Students: A Case Study in Southwest Jiaotong University”.

Research Objectives: 1. To study the factors affecting ancient Chinese reading summarizing ability for undergraduate students in Sichuan province.

It is conducted by Zhang Jie, a Ph.D. student in Curriculum and Instruction Programme at Bansomdejchaopraya Rajabhat University under the supervision of

1. Assistant Professor Dr. Areewan Iamsa-ard, majoring advisor
2. Associate Professor Dr. Wapee Kong-In, co-advisor
3. Associate Professor Dr. Suriya Phankosol, co-advisor

The following open questions are the instrument for collecting data in 1st phase of the research, concerning about factors to ancient Chinese reading summarizing ability.

Please write down your own opinion for each question. Data obtained from this interview are only used for the purpose of conducting aforementioned research and remain confidential. Individual or personal data presentation will be avoided.

Section 1 The information about the bio-social characteristic of the respondents.

1. Gender is A. Male B. Female
2. Lecturers from A. Sichan University
 B. Southwest Minzu University
 C. Southwest Jiaotong University
3. Experience teaching *Ancient Chinese* course in your university
 A. Below 3 yrs. B. 3-6 yrs.
 C. 7- 10 yrs. D. Over 10 yrs.
4. Age A. Below 30 yrs. B. 30 - 40 yrs.
 C. 41- 50 yrs. D. Over 50 yrs.
5. Professional Title A. Assistant B. Lecturer
 C. Associate professor D. Professor

Section 2 Interview on factors affecting learning in Ancient Chinese course.

Directions: *The type of question is open-ended questions, you can answer according to your actual situation. Your answers will only be used in this research and will not be disclosed individually.*

1. Why do you accept or select to teach ancient Chinese course? (Example, like teaching this course, excel in teaching this course, be required to teach, or for other reasons).
2. Please talk about the students' performance in learning ancient Chinese courses? How do students evaluate your course?

3. Please talk about the necessity and importance of students' ancient Chinese reading summarizing ability in the course.

4. What kind of teaching aspects do you think can enhance students' ancient Chinese reading summarizing ability? (Example, teaching objectives, teaching content, teaching materials, teaching method, teaching tools, teaching steps and activities, etc.)

5. What is your opinion on increasing opportunities and time for students to participate in discussions and group activities in the classroom? What kind of classroom arrangement do you think can help improve students' classroom participation and activity?

6. What teaching methods do you think can stimulate students' thinking and exploration of knowledge?

7. What kind of teaching activities do you think can fully showcase students' learning achievements and satisfy their sense of academic achievement?

8. What is your understanding of PBL (Problem-Based Learning)? What is your opinion on applying PBL (Problem-Based Learning) to ancient Chinese course to enhance students' reading summarizing ability?

9. What is your understanding of Mind Mapping? What is your opinion on applying Mind Mapping to ancient Chinese course to enhance students' reading summarizing ability?

10. What is your opinion on integrating Mind Mapping with Problem-Based Learning (PBL) to teach ancient Chinese course and enhance students' reading summarizing ability? How do you think its feasibility and effectiveness will be?

Section 3:

Comment and recommendation for improving the better instruction

.....

.....

.....

Thank you for your kind cooperation for completing the interview.

Researcher
Mrs. Zhang Jie

Lesson Plan

Lesson Plan 1

Unit: 9 Topic: Feng Xuan Acted as a Hanger-on of Lord Mengchang of Qi State
(Zhan Guo Ce)

Year: 1 4 hrs.

1. Learning Objectives

- 1) The students can catch the main idea of each paragraph. (Process-P)
- 2) The students can have a sense of collaboration. (Attitude - A)

2. Contents

Function: How can a hanger-on help the Lord achieve success and eliminate disasters.

Vocabulary: 责 debt 谢 apologize 赍 give gifts 姑 tentatively, for the moment 期年 a whole year

Structure: (1) Flexible use of ancient Chinese vocabulary, word-Class Shift,
(2) Inversion of word order

Culture: During the Warring States Period, the disputes among countries, the patriarchal system was destroyed, and the power of lords such as vassal kings and nobles was weakened. They urgently needed a large number of supporters and planners, so the princes would compete with each other to support scholars, thus a special class of "scholars" emerged. They attached themselves to the monarch and constantly offered suggestions to expand their political influence and consolidate their power. The article shows the talents and wisdom of the scholars in the Warring States Period through Feng Yuan, and also reflects the political outlook of that period.

3. Instructional : Mind Mapping and Problem-Based Learning Instructional Model

Steps to teach:

Class hour 1

Step 1: Identify and clarify unfamiliar terms in the scene, list the content that cannot be explained after discussion, and place a piece of paper in a horizontal format.

The lecturer gives a brief background introduction about the article of unit 9, and makes students do some free warm-up discussion: 1) *Do you know anything about the four famous lords in the Warring States Period?* 2) *Why were there so many hangers-on in the four famous lords' house?* Then, the lecturer let students scan the article, identify and clarify unfamiliar terms in the scene. Then students list

the terms that cannot be explained or very important after group discussion. At the same time, each student group places a piece of paper in a horizontal format, preparing their mind mapping work.

Step 2: Define the problem to be discussed, which can be drawn as an image in the very center of the paper.

According to the scanning of the article and term list, each student group defines the problem to be discussed, for example: “*What did Feng Xuan do for Lord Mengchang?*”. Then “Feng Xuan” or “Lord Mengchang”, names of the heroes of the article, can be drawn as an image in the very center of the paper. And they can begin their mind mapping work.

Step 3: “Brainstorm” meeting in groups to discuss the problem, propose possible explanations based on prior knowledge, and record all discussions with different colored thick branches extending from the central image, just like the branch of a tree.

Students read the article again more carefully, then have “brainstorm” meeting in groups to discuss the problem, propose possible explanations based on knowledge of the article, and record all discussions with different colored thick branches extending from the central image, just like the branch of a tree. Their mind mapping work is on the way.

Class hour 2

Step 4: Analyzing the problem. And send secondary buds from the main branch, then draw the third level branches that extend from these second level branches with different colors, and write keywords or draw symbols, or a combination of both, on all branches.

Students in groups analyze the problem again and again according to the content of the article. And they send secondary buds from the main branch, then draw the third level branches that extend from these second level branches with different colors, and write keywords or draw symbols, or a combination of both, on all branches. Their mind mapping work is initially completed.

Step 5: Formulate learning objectives after the group consensus, and the tutor ensure that learning objectives are focused, achievable, comprehensive, and appropriate.

With their initially completed mind mapping work, students formulate learning objectives or the resolve on the problem raised in Step 2 after the group consensus. Then the lecturer ensures that learning objectives or the resolve are focused, achievable, comprehensive, and appropriate.

Step 6: Learning in groups. Move freely on your mind map, jump from one branch to another, fill in any gaps, and add new branches as ideas and associations appear. And add arrows, curves and links between the main branches to strengthen the connection between them.

Students learning in groups to improve their mind maps. Move freely on your mind map, jump from one branch to another, fill in any gaps, and add new branches as ideas and associations appear. And add arrows, curves and links between the main branches to strengthen the connection between them. Then their mind maps are completed.

Class hour 3 & 4

Step 7: Reporting. Group shares the results of private learning of the mind map and the explanation for solution to the problem, and the tutor checks the learning and may assess the group.

Student groups give reporting in class. Groups share the results of their mind maps and the explanation for solution to the problem, and the lecturer checks their learning result and may assess the groups.

Some exercises are given by the lecturer to groups to make them have a better understanding about the content and the objectives of the unit. And then lecturer make explanation about the exercise to students. And finally, summing up by each group and lecturer together is carried out.

4.Learning materials

1. Book Unit 9
2. Photo cards
3. A piece of paper in a horizontal format
4. Chart Mind Mapping
5. PPT
6. Dictionary

5.Learning resources

1. Library
2. Internet

6.Evaluation and assessment

1. Attention class
2. Group mind mapping work
3. Group exercise to check objective 1 of unit 9: The students catch the main idea of each paragraph. (Process-P)
4. Pre-Post Test 1

7. Note after teaching

1. Teaching results:
 - 1) Each teaching step has been completed according to the lesson plan.

2) The student groups have successfully completed the teaching task, such as mind maps, classroom presentations, exercise questions, etc.

2. Problems:

1) Not corresponding with the assigned time perfectly.

2) A few students have not yet understood the new instructional model, and failed to follow some teaching steps.

3) A few student groups didn't submit assignments within due date.

3. Solution

1) Familiarizing with teaching steps and checking materials before teaching.

2) More explanation on the new instructional model to dispel students' anxiety.

3) More guidance and urging on students' assignment.

Signature.....*Zhang Jie*.....

(Lecturer: Zhang Jie)

23, May, 2023

Text of Unit 9

Feng Xuan Acted as a Hanger-on of Lord Mengchang of Qi State

(1) At the beginning of the story, Tian Ying had more than 40 sons. One of his concubines gave birth to a son named Tian Wen. Tian Wen was born on May 5. Tian Ying told Tian Wen's mother, "Don't raise him." However, Tian Wen's mother secretly raised him.

(2) When he grew up, his mother introduced Tian Wen to Tian Ying through her brother. Seeing the child, Tian Ying said angrily to his mother, "I asked you to throw the child away. How dare you feed him? Why?" Before Tian Wen's mother answered, Tian Wen immediately kowtowed and bowed down, and then asked Tian Ying, "Why do you not want to raise a child born in May?" Tian Ying replied, "When a child born in May is as tall as the door, it will be bad for his parents." Tian Wen said, "Is man's destiny mandated by heaven or by the portal?" Tian Ying didn't know how to answer, so he was silent. Tian Wen then said, "If it is granted by God, why do you worry? If it is granted by the portal, you can only raise the portal. Who can grow so high!" Tian Ying was speechless and scolded, "Don't talk!"

(3) After a long time, Tian Wen took the opportunity to ask his father, "Who is your son's son?" Tian Ying replied, "My grandson." Tian Wen then asked, "Who is your grandson's grandson?" Tian Ying answered, "My great-great-grandson." Tian Wen asked again, "Who is your great-great-grandson's great-great-grandson?" Tian Ying said, "I don't know." Tian Wen said: "You have been in charge of the power and served as the prime minister of Qi State for three Kings. However, the territory of Qi State has not been expanded. Your private family has accumulated a lot of wealth, and there is no one who can see a talent. I heard that there must be a general in the general's court, and there must be a prime minister in the prime minister's court. Now your concubines can trample on silk, but the talents can't wear coarse cloth and short clothes. Your male servants and female slaves have leftover food and meat, and the talents are always hungry. Now you are still trying to accumulate more treasures and leave it to those who you don't even know, but forget that the country is losing power day by day among the states. I am very strange in private. "

(4) From then on, Tian Ying changed his attitude towards Tian Wen, valued him, and asked him to preside over housekeeping and receive guests. With the increasing number of guests coming and going, Tian Wen's reputation spread to the vassal states. All the vassal states sent people to ask Tian Ying to establish Tian Wen as the crown prince, and Tian Ying agreed. After Tian Ying died, he was posthumously

titled Jingguo Jun. Tian Wen succeeded Tian Ying in Xue City, and then he became the famous Lord Mengchang.

(5) There was a man named Feng Xuan in the State of Qi. Because he was too poor to support himself. He asked someone to tell Lord Mengchang that he would like to live under his door as a hanger-on. Lord Mengchang asked, "What's Feng Xuan's hobby?" "No hobbies," he replied. Then Lord Mengchang asked again, "What is Feng Xuan's talent?" He replied, "No talent." Lord Mengchang smiled, but he accepted him.

(6) Lord Mengchang's servants thought that he looked down on Feng Xuan, so they let Feng Xuan eat poor food. After a period of time, Feng Xuan leaned against the pillar and shot his sword, singing, "Let's go back, my long sword! There is no fish to eat." Lord Mengchang's servants told him about it. He said, "Let him eat fish and live as a middle-class guest." After a period of time, Feng Xuan played his sword and sang again, "Let's go back! There is no carriage when going outside." Lord Mengchang's servants made fun of Feng Xuan and told Lord Mengchang about it. Lord Mengchang said, "Give him a carriage, and pay him according to the living conditions of a first-class hanger-on." Feng Xuan then took his carriage, held his sword high, and went to visit his friends. He was very happy and said, "Lord Mengchang treated me as a first-class hanger-on." Not long after that, Feng Xuan again played his sword and sang, "Let's go back, my long sword! We can't support our family." At this time, Lord Mengchang's servants began to hate Feng Xuan and thought he was insatiable. After hearing about this, Lord Mengchang asked servants, "Does Mr. Feng have parents?" Feng Yuan replied, "I have an old mother at home." So, Lord Mengchang sent someone to feed his mother, and provide her a good living condition. So, after that, Feng Xuan stopped singing.

(7) Later, Lord Mengchang sent a notice to ask his hangers-on, "Who is familiar with accounting? Can you collect arrears for me in the place of Xue?" Feng Xuan signed the book with his own name and the word "can". Lord Mengchang was surprised at the name and asked, "Who is this?" The servants answered, "It's the one who sings 'Let's go back, my long sword!'" Lord Mengchang smiled and said, "This Mr. Feng is really talented. I've treated him badly. I haven't met him yet!" He immediately sent someone to ask Feng Xuan to meet him. He said to him, "I am exhausted by trifles and upset by worries. In addition, I am weak and incompetent, and I have been buried in national affairs all day, so that I snubbed you. But you don't mind that and you would like go to the place of Xue to collect arrears for me, do you?" Feng Yuan replied, "Yes." So, Feng Xuan set up carriages and horses,

renovated their luggage, loaded the contract notes and set off. When he said goodbye to Lord Mengchang, Feng Xuan asked, “What can I buy back after the debt is paid?” Lord Mengchang said, “You can see what my family lacks.”

(8) Feng Yuan hurried to the place of Xue and sent officials to check the deeds of the people who should pay the debts. After the verification, he gave all the IOU back to the debtors and burned the IOU on the spot under the counterfeiting order of Lord Mengchang. The people shouted “long live”.

(9) Feng Xuan hurried back to the capital of Qi State without stopping, and asked to see Lord Mengchang in the morning. Feng Xuan returned so quickly that Lord Mengchang was surprised. Lord Mengchang immediately put on his clothes and hat and went to see Feng Xuan and asked, “All of the debts have been collected? Why you come back so soon?” Feng Xuan replied. “All of the debts have been collected.” “What did you buy back?” Asked Lord Mengchang. Feng Yuan replied, “You have said, ‘Look what my family lacks.’ I thought privately that your palace is full of pearl babies, there are many hunting dogs and horses in the stable outside, and many beautiful women in the backyard. What your family lacks is only benevolence and righteousness, so I bought ‘benevolence and justice’ for you with the debt.” Lord Mengchang said, “What is it about buying benevolence and righteousness?” Feng Xuan said, “Now you only have a small place of Xue. If you don't love the people and treat them as your children, but use the way of merchants to make profits to the people, is that good for you? Therefore, I counterfeited your order, rewarded the people with debts, and burned the IOUs, so that the people cheered ‘Long Live’. This is the way I buy benevolence and righteousness for you.” After listening to this, Lord Mengchang said angrily, “Well, sir, stop talking now.”

(10) A year later, King Min of Qi, the new king, said to Lord Mengchang, “I don't dare to regard the officials of my father, the former king, as my officials.” Lord Mengchang had to go to his territory, the place of Xue. It was still a hundred miles away, and the people of Xue, both old and young, welcomed the arrival of Lord Mengchang at the roadside. Seeing this, Lord Mengchang looked back at Feng Xuan and said, “Today, I just understand the benevolence and righteousness you bought for me before.”

(11) Feng Xuan said, “A cunning rabbit has three caves to avoid death. Now you only have one cave, so you can't rest easy. Please let me dig two more caves for you.” Lord Mengchang agreed and gave him 50 carriages and 500 jin of gold. Feng Xuan went west to the State of Liang. He said to King Hui of Liang State, “Now the

State of Qi exiles his minister, Lord Mengchang, to a foreign state. If any king welcomes Lord Mengchang first, his state will become rich and powerful.” So, King Hui of Liang State vacated the position of prime minister, transferred the original position of the prime minister to the position of superior general, and sent envoys with a thousand jin of gold and a hundred carriages to invite Lord Mengchang. Feng Xuan drove back first and warned Lord Mengchang, “A thousand jin of gold is a very heavy gift, and a hundred carriages prove the envoy is noble. I think the king and officials of the State of Qi have heard about this.” The envoys of the State of Liang went back and forth for many times. Lord Mengchang resolutely refused to go to the State of Liang.

(12) Hearing this, the king of Qi and his officials are panicked and frightened. So, the king of Qi sent his preceptor visit Lord Mengchang with the gift of a thousand jin of gold, two floats, and a sword. The king of Qi also wrote a letter and apologized to Lord Mengchang, saying, “I was very unlucky. I suffered from the disaster from my ancestors, and I was confused by those courtiers who flattered me and offended you. I don't deserve your help. I hope you can take care of the ancestral temple of the former king and come back to command the people of the state!” Feng Xuan reminded Lord Mengchang, “I hope you can ask the king of Qi to build a temple in Xue to hold the sacrificial vessels handed down by the previous kings.” When the temple was completed, Feng Xuan came back to report to Lord Mengchang and said, “The three caves have been prepared, so you can lie on your back and enjoy yourself!”. Lord Mengchang had been the prime minister of Qi State for decades with no disaster. It was all due to Feng Xuan's plan.

Exercise of Unit 9:

Learning Objective 1: Catch the main idea of each paragraph.

Choose the correct answers according to the content of Unit 9 text.

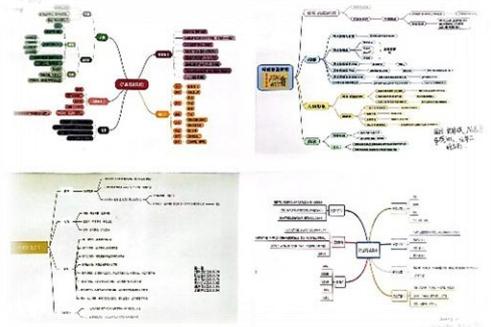
1. What is the main idea of the paragraph in paragraph (1)?
 - A. Tian Ying had many wives, concubines, and children.
 - B. Tian Ying didn't like Tian Wen because of his mother's low status.
 - C. Tian Wen was not loved by Tian Ying due to his unlucky birth date.
 - D. Tian Wen was abandoned by Tian Ying, but his mother secretly raised him.

Correct answer: D

2. What is the main idea of the paragraph in paragraph (2)?
- A. Tian Ying felt very angry when he saw Tian Wen.
 - B. Tian Ying was very surprised to see Tian Wen.
 - C. Tian Wen attempted to dispel Tian Ying's prejudice against his date of birth.
 - D. Tian Wen successfully made Tian Ying accept him.
- Correct answer: C
3. What is the main idea of the paragraph in paragraph (3)?
- A. Tian Wen criticized Tian Ying for not knowing how to recruit talented people.
 - B. Tian Wen criticized Tian Ying for not considering future generations.
 - C. Tian Wen criticized Tian Ying for only focusing on accumulating wealth.
 - D. Tian Wen criticized Tian Ying for not considering the development of Qi state.
- Correct answer: A
4. What is the main idea of the paragraph in paragraph (4)?
- A. Tian Ying ignored Tian Wen's suggestion.
 - B. Tian Ying accepted Tian Wen's suggestion.
 - C. Tian Wen was highly valued by Tian Ying and became Lord Mengchang.
 - D. Tian Wen was still not valued by Tian Ying.
- Correct answer: C
5. What is the main idea of the paragraph in paragraph (5)?
- A. Feng Yuan disdained becoming a hanger-on of Lord Mengchang.
 - B. Feng Yuan took the initiative to become a hanger-on of Lord Mengchang.
 - C. Lord Mengchang actively recruited Feng Xuan to be his hanger-on.
 - D. Lord Mengchang refused to accept Feng Xuan as his hanger-on.
- Correct answer: B
6. What is the main idea of the paragraph in paragraph (6)?
- A. Lord Mengchang treated Feng Xuan with courtesy.
 - B. The servants beside Lord Mengchang belittled Feng Xuan.
 - C. Feng Xuan caught Lord Mengchang's attention by making unreasonable demands.
 - D. Feng Xuan repeatedly requested for higher treatment.
- Correct answer: D
7. What is the main idea of paragraph (7)?
- A. Feng Xuan asked to collect arrears for Lord Mengchang voluntarily.
 - B. Feng Xuan was recommended to collect arrears for Lord Mengchang.
 - C. Lord Mengchang apologized to Feng Xuan.
 - D. Lord Mengchang doubted Feng Xuan's talent.
- Correct answer: A

8. What is the main idea of paragraph (8)?
- A. Feng Xuan successfully collected arrears.
 - B. Feng Xuan struggled to collect arrears.
 - C. Feng Xuan burned the IOUs without permission.
 - D. Feng Xuan followed Lord Mengchang's order and burned the IOUs.
- Correct answer: C
9. What is the main idea of paragraph (9)?
- A. Lord Mengchang was surprised by Feng Xuan's quick return.
 - B. Lord Mengchang praised Feng Xuan's ability to collect debts.
 - C. Feng Xuan's purchase of benevolence and righteousness was praised by the people.
 - D. Feng Xuan's purchase of benevolence and righteousness caused dissatisfaction of Lord Mengchang.
- Correct answer: D
10. What is the main idea of the paragraph (10)?
- A. Lord Mengchang was dismissed from office.
 - B. Lord Mengchang fled to Xue place.
 - C. Lord Mengchang received favor from the people of Xue.
 - D. Lord Mengchang realized the role of Feng Xuan's purchasing righteousness caused dissatisfaction.
- Correct answer: D
11. What is the main idea of the paragraph (11)?
- A. Feng Xuan helped Lord Mengchang secure the position of Prime Minister of Liang State.
 - B. Feng Xuan used King Liang to elevate Lord Mengchang's position.
 - C. Feng Xuan found refuge for Lord Mengchang.
 - D. Feng Xuan helped Lord Mengchang obtain valuable gifts.
- Correct answer: B
12. What is the main idea of the paragraph (12)?
- A. Feng Xuan created multiple protections for Lord Mengchang.
 - B. The King of Qi presented Lord Mengchang with valuable gifts.
 - C. The King of Qi apologized to Lord Mengchang.
 - D. Lord Mengchang served as the Prime Minister of Qi for decades.
- Correct answer: A

Photos of while-teaching



Pre-Post Tests
Test of Ancient Chinese Reading Summarizing Ability
Testing Paper 1

Objective 1: Catch the main idea of each paragraph.

Class:

Student No.:

Name:

Direction: Please read the following story and choose the best answer.

1. What is the main idea of the paragraph in paragraph (2)?
 - A. Tian Ying felt very angry when he saw Tian Wen.
 - B. Tian Ying was very surprised to see Tian Wen.
 - C. Tian Wen attempted to dispel Tian Ying's prejudice against his date of birth.
 - D. Tian Wen successfully made Tian Ying accept him.Correct answer: C
2. What is the main idea of the paragraph in paragraph (3)?
 - A. Tian Wen criticized Tian Ying for not knowing how to recruit talented people.
 - B. Tian Wen criticized Tian Ying for not considering future generations.
 - C. Tian Wen criticized Tian Ying for only focusing on accumulating wealth.
 - D. Tian Wen criticized Tian Ying for not considering the development of Qi state.Correct answer: A
3. What is the main idea of the paragraph in paragraph (4)?
 - A. Tian Ying ignored Tian Wen's suggestion.
 - B. Tian Ying accepted Tian Wen's suggestion.
 - C. Tian Wen was highly valued by Tian Ying and became Lord Mengchang.
 - D. Tian Wen was still not valued by Tian Ying.Correct answer: C
4. What is the main idea of the paragraph in paragraph (5)?
 - A. Feng Yuan disdained becoming a hanger-on of Lord Mengchang.
 - B. Feng Yuan took the initiative to become a hanger-on of Lord Mengchang.
 - C. Lord Mengchang actively recruited Feng Xuan to be his hanger-on.
 - D. Lord Mengchang refused to accept Feng Xuan as his hanger-on.Correct answer: B
5. What is the main idea of the paragraph in paragraph (6)?
 - A. Lord Mengchang treated Feng Xuan with courtesy.
 - B. The servants beside Lord Mengchang belittled Feng Xuan.
 - C. Feng Xuan caught Lord Mengchang's attention by making unreasonable demands.
 - D. Feng Xuan repeatedly requested for higher treatment.Correct answer: D

6. What is the main idea of paragraph (7)?
- A. Feng Xuan asked to collect arrears for Lord Mengchang voluntarily.
 - B. Feng Xuan was recommended to collect arrears for Lord Mengchang.
 - C. Lord Mengchang apologized to Feng Xuan.
 - D. Lord Mengchang doubted Feng Xuan's talent.
- Correct answer: A
7. What is the main idea of paragraph (9)?
- A. Lord Mengchang was surprised by Feng Xuan's quick return.
 - B. Lord Mengchang praised Feng Xuan's ability to collect debts.
 - C. Feng Xuan's purchase of benevolence and righteousness was praised by the people.
 - D. Feng Xuan's purchase of benevolence and righteousness caused dissatisfaction of Lord Mengchang.
- Correct answer: D
8. What is the main idea of the paragraph (10)?
- A. Lord Mengchang was dismissed from office.
 - B. Lord Mengchang fled to Xue place.
 - C. Lord Mengchang received favor from the people of Xue.
 - D. Lord Mengchang realized the role of Feng Xuan's purchasing righteousness caused dissatisfaction.
- Correct answer: D
9. What is the main idea of the paragraph (11)?
- A. Feng Xuan helped Lord Mengchang secure the position of Prime Minister of Liang State.
 - B. Feng Xuan used King Liang to elevate Lord Mengchang's position.
 - C. Feng Xuan found refuge for Lord Mengchang.
 - D. Feng Xuan helped Lord Mengchang obtain valuable gifts.
- Correct answer: B
10. What is the main idea of the paragraph (12)?
- A. Feng Xuan created multiple protections for Lord Mengchang.
 - B. The King of Qi presented Lord Mengchang with valuable gifts.
 - C. The King of Qi apologized to Lord Mengchang.
 - D. Lord Mengchang served as the Prime Minister of Qi for decades.
- Correct answer: A

Text: Feng Xuan Acted as a Hanger-on of Lord Mengchang of Qi State

(1) At the beginning of the story, Tian Ying had more than 40 sons. One of his concubines gave birth to a son named Tian Wen. Tian Wen was born on May 5. Tian Ying told Tian Wen's mother, "Don't raise him." However, Tian Wen's mother secretly raised him.

(2) When he grew up, his mother introduced Tian Wen to Tian Ying through her brother. Seeing the child, Tian Ying said angrily to his mother, "I asked you to throw the child away. How dare you feed him? Why?" Before Tian Wen's mother answered, Tian Wen immediately kowtowed and bowed down, and then asked Tian Ying, "Why do you not want to raise a child born in May?" Tian Ying replied, "When a child born in May is as tall as the door, it will be bad for his parents." Tian Wen said, "Is man's destiny mandated by heaven or by the portal?" Tian Ying didn't know how to answer, so he was silent. Tian Wen then said, "If it is granted by God, why do you worry? If it is granted by the portal, you can only raise the portal. Who can grow so high!" Tian Ying was speechless and scolded, "Don't talk!"

(3) After a long time, Tian Wen took the opportunity to ask his father, "Who is your son's son?" Tian Ying replied, "My grandson." Tian Wen then asked, "Who is your grandson's grandson?" Tian Ying answered, "My great-great-grandson." Tian Wen asked again, "Who is your great-great-grandson's great-great-grandson?" Tian Ying said, "I don't know." Tian Wen said: "You have been in charge of the power and served as the prime minister of Qi State for three Kings. However, the territory of Qi State has not been expanded. Your private family has accumulated a lot of wealth, and there is no one who can see a talent. I heard that there must be a general in the general's court, and there must be a prime minister in the prime minister's court. Now your concubines can trample on silk, but the talents can't wear coarse cloth and short clothes. Your male servants and female slaves have leftover food and meat, and the talents are always hungry. Now you are still trying to accumulate more treasures and leave it to those who you don't even know, but forget that the country is losing power day by day among the states. I am very strange in private. "

(4) From then on, Tian Ying changed his attitude towards Tian Wen, valued him, and asked him to preside over housekeeping and receive guests. With the increasing number of guests coming and going, Tian Wen's reputation spread to the vassal states. All the vassal states sent people to ask Tian Ying to

establish Tian Wen as the crown prince, and Tian Ying agreed. After Tian Ying died, he was posthumously titled Jingguo Jun. Tian Wen succeeded Tian Ying in Xue City, and then he became the famous Lord Mengchang.

(5) There was a man named Feng Xuan in the State of Qi. Because he was too poor to support himself. He asked someone to tell Lord Mengchang that he would like to live under his door as a hanger-on. Lord Mengchang asked, "What's Feng Xuan's hobby?" "No hobbies," he replied. Then Lord Mengchang asked again, "What is Feng Xuan's talent?" He replied, "No talent." Lord Mengchang smiled, but he accepted him.

(6) Lord Mengchang's servants thought that he looked down on Feng Xuan, so they let Feng Xuan eat poor food. After a period of time, Feng Xuan leaned against the pillar and shot his sword, singing, "Let's go back, my long sword! There is no fish to eat." Lord Mengchang's servants told him about it. He said, "Let him eat fish and live as a middle-class guest." After a period of time, Feng Xuan played his sword and sang again, "Let's go back! There is no carriage when going outside." Lord Mengchang's servants made fun of Feng Xuan and told Lord Mengchang about it. Lord Mengchang said, "Give him a carriage, and pay him according to the living conditions of a first-class hanger-on." Feng Xuan then took his carriage, held his sword high, and went to visit his friends. He was very happy and said, "Lord Mengchang treated me as a first-class hanger-on." Not long after that, Feng Xuan again played his sword and sang, "Let's go back, my long sword! We can't support our family." At this time, Lord Mengchang's servants began to hate Feng Xuan and thought he was insatiable. After hearing about this, Lord Mengchang asked servants, "Does Mr. Feng have parents?" Feng Yuan replied, "I have an old mother at home." So, Lord Mengchang sent someone to feed his mother, and provide her a good living condition. So, after that, Feng Xuan stopped singing.

(7) Later, Lord Mengchang sent a notice to ask his hangers-on, "Who is familiar with accounting? Can you collect arrears for me in the place of Xue?" Feng Xuan signed the book with his own name and the word "can". Lord Mengchang was surprised at the name and asked, "Who is this?" The servants answered, "It's the one who sings 'Let's go back, my long sword!'" Lord Mengchang smiled and said, "This Mr. Feng is really talented. I've treated him badly. I haven't met him yet!" He immediately sent someone to ask Feng Xuan to meet him. He said to him, "I am exhausted by trifles and upset by worries. In addition, I am weak and incompetent, and I have been buried in national affairs

all day, so that I snubbed you. But you don't mind that and you would like go to the place of Xue to collect arrears for me, do you?" Feng Yuan replied, "Yes." So, Feng Xuan set up carriages and horses, renovated their luggage, loaded the contract notes and set off. When he said goodbye to Lord Mengchang, Feng Xuan asked, "What can I buy back after the debt is paid?" Lord Mengchang said, "You can see what my family lacks."

(8) Feng Yuan hurried to the place of Xue and sent officials to check the deeds of the people who should pay the debts. After the verification, he gave all the IOU back to the debtors and burned the IOU on the spot under the counterfeiting order of Lord Mengchang. The people shouted "long live".

(9) Feng Xuan hurried back to the capital of Qi State without stopping, and asked to see Lord Mengchang in the morning. Feng Xuan returned so quickly that Lord Mengchang was surprised. Lord Mengchang immediately put on his clothes and hat and went to see Feng Xuan and asked, "All of the debts have been collected? Why you come back so soon?" Feng Xuan replied. "All of the debts have been collected." "What did you buy back?" Asked Lord Mengchang. Feng Yuan replied, "You have said, 'Look what my family lacks.' I thought privately that your palace is full of pearl babies, there are many hunting dogs and horses in the stable outside, and many beautiful women in the backyard. What your family lacks is only benevolence and righteousness, so I bought 'benevolence and justice' for you with the debt." Lord Mengchang said, "What is it about buying benevolence and righteousness?" Feng Xuan said, "Now you only have a small place of Xue. If you don't love the people and treat them as your children, but use the way of merchants to make profits to the people, is that good for you? Therefore, I counterfeited your order, rewarded the people with debts, and burned the IOUs, so that the people cheered 'Long Live'. This is the way I buy benevolence and righteousness for you." After listening to this, Lord Mengchang said angrily, "Well, sir, stop talking now."

(10) A year later, King Min of Qi, the new king, said to Lord Mengchang, "I don't dare to regard the officials of my father, the former king, as my officials." Lord Mengchang had to go to his territory, the place of Xue. It was still a hundred miles away, and the people of Xue, both old and young, welcomed the arrival of Lord Mengchang at the roadside. Seeing this, Lord Mengchang looked back at Feng Xuan and said, "Today, I just understand the benevolence and righteousness you bought for me before."

(11) Feng Xuan said, "A cunning rabbit has three caves to avoid death. Now you only have one cave, so you can't rest easy. Please let me dig two more caves for you." Lord Mengchang agreed and gave him 50 carriages and 500 jin of gold. Feng Xuan went west to the State of Liang. He said to King Hui of Liang State, "Now the State of Qi exiles his minister, Lord Mengchang, to a foreign state. If any king welcomes Lord Mengchang first, his state will become rich and powerful." So, King Hui of Liang State vacated the position of prime minister, transferred the original position of the prime minister to the position of superior general, and sent envoys with a thousand jin of gold and a hundred carriages to invite Lord Mengchang. Feng Xuan drove back first and warned Lord Mengchang, "A thousand jin of gold is a very heavy gift, and a hundred carriages prove the envoy is noble. I think the king and officials of the State of Qi have heard about this." The envoys of the State of Liang went back and forth for many times. Lord Mengchang resolutely refused to go to the State of Liang.

(12) Hearing this, the king of Qi and his officials are panicked and frightened. So, the king of Qi sent his preceptor visit Lord Mengchang with the gift of a thousand jin of gold, two floats, and a sword. The king of Qi also wrote a letter and apologized to Lord Mengchang, saying, "I was very unlucky. I suffered from the disaster from my ancestors, and I was confused by those courtiers who flattered me and offended you. I don't deserve your help. I hope you can take care of the ancestral temple of the former king and come back to command the people of the state!" Feng Xuan reminded Lord Mengchang, "I hope you can ask the king of Qi to build a temple in Xue to hold the sacrificial vessels handed down by the previous kings." When the temple was completed, Feng Xuan came back to report to Lord Mengchang and said, "The three caves have been prepared, so you can lie on your back and enjoy yourself!". Lord Mengchang had been the prime minister of Qi State for decades with no disaster. It was all due to Feng Xuan's plan.

Test of Ancient Chinese Reading Summarizing Ability

Testing Paper 2

Objective 2: Interpret ideas and information.

Class:

Student No.:

Name:

Direction: Please read the following story and choose the best answer.

Sub-Objective 1): Specifying correct meaning of words.

1. What's the meaning of "command" in paragraph 2?

- A. handsome B. follow C. lead D. wear a scarf

Correct answer: C

2. What's the meaning of "doubled" in paragraph 2?

- A. puppet B. spouse C. meet D. twofold

Correct answer: D

3. What's the meaning of "make peace" in paragraph 3?

- A. complete B. negotiate peace C. success D. facilitate

Correct answer: B

4. What's the meaning of "multiply" in paragraph 6?

- A. reproduce B. victory C. growth up D. shield

Correct answer: A

5. What's the meaning of "together" in paragraph 7?

- A. army B. with each other C. passenger D. many people

Correct answer: B

Sub-Objective 2): Generalize ideas and information not explicitly stated in the text.

6. What is the purpose of mentioning merchants in paragraph (1)?

A. Indicating that Guo Jian, the King of Yue, should be as skilled in business as merchants.

B. Indicating that King Goujian of Yue should prepare combat supplies in advance.

C. Indicating that it was too late for King Goujian of Yue to seek talent now.

D. Indicating that King Goujian of Yue was not as good as merchants.

Correct answer: C

7. In paragraph (2), when Wen Zhong asked " Which is more beneficial ", What would he like King Wu's answer to be?

A. The surrendered state of Yue would benefit the state of Wu.

B. The surrendered state of Yue was not beneficial to the state of Wu.

C. Eliminating the state of Yue would benefit the state of Wu.

D. The state of Yue did not matter whether it was beneficial or not to the state of Wu.

Correct answer: A

8. In paragraph (3), Wu Zixu talked about the comparison between the Yue state and Central Plains countries, what was he trying to explain?

A. The Central Plains states were too powerful to be annexed by the State of Wu.

B. The Central Plains states, like the Yue state, should be annexed by the Wu Kingdom.

C. The Yue state was more easily annexed than the Central Plains states.

D. The annexation of the Yue state would result in tangible benefits to Wu state.

Correct answer: D

9. What is the main purpose of enacting laws by Gou Jian in paragraph (6)?

A. To make the economy of Yue state bloomed.

B. To make the military force of Yue state strong.

C. To let Yue state increase its population.

D. To Keep Yue state away from war.

Correct answer: C

10. In paragraph (8), King Fu Chai of Wu said the same words as the state of Yue before. What was the purpose of his statement?

A. He wanted to accuse Yue of betrayal.

B. He wanted to arouse sympathy from Yue.

C. He wanted to evoke memories of King Goujian of Yue.

D. He hoped that the state of Yue could also provide a way for the state of Wu to survive.

Correct answer: D

Text: Gou Jian, King of Yue State, Destroyed Wu State

(1) Gou Jian, King of Yue, retreated to Kuaiji Mountain. He gave an order to the three armies and said, "My brothers and civilians, I will manage the affairs of Yue with anyone of you who can help me defeat Wu." Wen Zhong, a minister of Yue, came in and answered, "I heard that merchants prepare leather goods in summer and fine thin cloth in winter. They prepare boats when the weather is dry and carriages when the flood is very heavy. They intend to use them when they are in short. Even if they are not harassed by the neighbors, however, advisers and warriors must be selected to support them. Like coir rainbows, the rain has come down and they must look everywhere. Now you have retreated to Kuaiji Mountain, may king,

and I'm afraid it's too late for you to seek advice for ministers?" Gou Jian said, "If you can let me hear your opinions, why would it be too late?" So, he took Wen Zhong's hand and discussed with him. Finally, Wen Zhong went to the State of Wu to sue for peace.

(2) Later, the King of Yue sent Wen Zhong to the State of Wu to seek peace. Wen Zhong said to the King of Wu: "We in the State of Yue can't send a capable person, so we have sent an incompetent official like me. I dare not say directly to you, King of Wu. I privately said to your servants: Our army of the King of Yue is not worth humiliating the king again. The King of Yue is willing to offer the gold, jade and young people to King of Wu. And please allow the daughters of the King of Yue to marry humiliation as a servant concubine, the daughters of the ministers of Yue State to marry the ministers of Wu State as a servant concubine, and the daughters of the scholars of Yue State marry the scholars of Wu State as a servant concubine. And with all the treasures of Yue, King of Yue will command the people of the whole country into the King of Wu's army and follow his order. If you think the fault of King of Yue cannot be tolerated, then we will burn down the temple, tie up the wife and children, throw them into the river together with the gold and jade, and then lead the only 5000 people, which will be doubled, to fight to the death with the State of Wu. So, we will take 10000 people's army against your king, which will inevitably cause losses to the people and property of the State of Wu. Doesn't it affect the king's kindness and compassion? Would you rather kill all the people in the state of Yue, or would you rather not make efforts to get the state of Yue? Please weigh it up. Which is more beneficial?"

(3) Fu Chai, King of Wu, wanted to follow the suggestion of Wen Zhong and make peace with Yue. Wu Zixu, a senior minister of the State of Wu, said, "No! The State of Wu and the State of Yue are states that hate each other, are hostile to each other, and fight against each other. There are three rivers around the two states, and the people have no place to move. If there is the State of Wu, there will be no State of Yue, and if there is the State of Yue, there will be no State of Wu. This situation will not change. I heard that people who live on land are used to living on land, and people who live by water are used to living by water. Even if we attack the Central Plains states and defeat them, we can't live there for a long time, nor can we use their carriages. We should take the initiative to attack and defeat Yue State, so that we can live there for a long time and take their ships. This is an opportune moment for the elimination of the State of Yue, which must not be lost. My king, you must

destroy the State of Yue! If you lose this favorable opportunity, it will be too late to regret later.”

(4) The people of the State of Yue dressed up eight beautiful women and gave them to Pi, another minister of the State of Wu. They said to him, “If you can let the King of Wu forgive us the crimes of the State of Yue, there will be more beautiful women than these for you.” Pi admonished Fu Chai, the King of Wu, saying, “I heard that in ancient times, when a country was attacked, it was OK for the enemy to admit defeat. Now that the State of Yue has confessed defeat, what do you want to ask?” So, Fu Chai, the King of Wu, signed an alliance with the State of Yue and let Wen Zhong leave.

(5) Gou Jian said to his people, “I didn't know I wasn't strong enough, but I went to revenge with the powerful State of Wu, which led to the displacement of the people and their corpses in the wilderness. This is my crime. I ask you to allow me to change the policy of governing the country.” So, they buried the dead, comforted the injured, and provided for the living. Those who had worries could get condolence from Gou Jian, and those who had happy events could get congratulations from Gou Jian. And he sent off the people who want to go far away and welcomed the people who go home. He eliminated what the people dislike and supplemented what they lack. Then Gou Jian sent 300 men to serve the king of Wu, and he himself also acted as a groom for Fu Chai.

(6) Gou Jian's territory stretched from Quwu in the south, Yu'er in the north, Yinyin in the east, and Gumei in the west. The land covered an area of hundreds of miles. He gathered his people and swore, “I heard in ancient times the common people from all directions came to wise kings, just like water flowing down the river. Now I am powerless and will lead you to multiply.” So, he ordered that young men should not marry old women, and old men should not marry young women. If a girl had not married before the age of seventeen, her parents were guilty. If a man had not married before the age of twenty, his parents were also guilty. Those who were about to give birth should let the officials know, who would send doctors to help them. When giving birth to a boy, the parents would be rewarded two pots of wine and a dog by government. When giving birth to a girl, the parents would be rewarded two pots of wine and a pig by government. When giving birth to triplets, the parents would be provided with a nurse by government. When giving birth to twins, the parents would be provided with food by government. If the legitimate eldest son died, the tax would be reduced for three years. If a concubine's son died, the tax would be reduced for three months. Gou Jian also ordered that the government

must support and educate the children of widows, the sick people, the poor people and the seriously ill people. For those who were wise and reasonable, the government must clean their houses, dress them in beautiful clothes, feed them, and sharpen them in righteousness. Those scholars who came to Yue must be entertained to feasts in the temple to show Yue's respect. Gou Jian himself brought rice and meat in a boat. He provided food and drink to those homeless young people. Gou Jian would not eat what he had not cultivated himself, nor wore the cloth that his wife had not woven herself. In this way, for ten consecutive years, the State of Yue did not collect taxes, and the people had enough food to eat and stored grain for three years.

(7) All the people of the State of Yue said to Gou Jian, "Once upon a time, King Fu Chai of Wu made our king lose face in front of all the vassals. Now the State of Yue has returned to its routine. Please allow us to revenge for you." Gou Jian then refused and said, "It was not your fault but mine to defeat that battle. How can a man like me know what shame is? Please stop fighting for me." The people said again: "All over the State of Yue, people treat you as the parents. Sons want to revenge for their parents, and people want to revenge for the King. Is there anyone who dares not to do his best? We ask for another fight!" Gou Jian agreed, so he called everyone and swore, "I heard that the wise kings in ancient times did not worry about their lack of manpower, but about their lack of shame. Now there are more than one hundred thousand soldiers wearing water rhinoceros skin armor in State of Wu. They are not worried about their lack of shame, but they are worried that the number of his soldiers is not enough. Now I will help God destroy him. I do not agree with the courage of individuals who are brave but rude. I hope everyone can move forward and retreat together. When you move forward, you think you will be rewarded, and when you move backward, you think you will be punished. In this way, there will be rewards in line with national regulations. Disobedience to orders in advance, no shame in retreat." The attacking Wu State started decisively, and the people of Yue encouraged each other. The father encouraged his son, the brother encouraged his brother, and the woman encouraged her husband, saying, "Why can't you die for such a good king?" So, Yue defeated the State of Wu in Lize, defeated the State of Wu again in Mei, and defeated it again in the suburbs of the State of Wu. So, the State of Yue destroyed the State of Wu.

(8) Fu Cha begged for peace and said, "My army is not worth humiliating you. Please allow me to offer you treasures and beautiful women to comfort you." Gou Jian replied, "In the past, God gave the State of Yue to the State of Wu, but the

State of Wu did not want it. Now God has given the State of Wu to the State of Yue. Can the State of Yue not obey God's orders, but obey your instructions? Please allow me to send you to the east of the Yong River, and we will still be like two kings.” Fu Chai replied, “From the point of etiquette, I have already had a small favor in the State of Yue. If you don't forget the Zhou Dynasty and give us a small foothold in the State of Wu, that would be what I hope. If you say, ‘I will destroy your state and your ancestral temple’, I can only ask for death. How can I face people in the world? Just enter the State of Wu and garrison there.” The State of Yue destroyed the State of Wu.

Test of Ancient Chinese Reading Summarizing Ability

Testing Paper 3

Objective 3: Integrate ideas and information.

Class:

Student No.:

Name:

Direction: Please read the following story and choose the best answer.

Sub-Objective 1): Answer questions across related texts.

1. Which of the following statements is correct about the location where the historical stories of Text 1 and Text 2 occurred?
 - A. Both stories took place in the state of Zhao.
 - B. Both stories took place in the state of Wei.
 - C. The story of Text 1 took place in the state of Zhao, while the story of Text 2 mainly took place in the state of Wei, so the two stories were not related.
 - D. The story of Text 1 took place in the state of Zhao, while the story of Text 2 mainly took place in the state of Wei, but the two stories were closely related.

Correct answer: D

2. Which of the following statements is correct about the time when the historical stories of Text 1 and Text 2 occurred?
 - A. The story in Text 1 occurred earlier.
 - B. The story in Text 2 occurred earlier.
 - C. The stories of Text 1 and Text 2 happened almost simultaneously.
 - D. It is not possible to determine the chronological order of the stories of Text 1 and Text 2.

Correct answer: C

3. From the contents of Text 1 and Text 2, what was the relationship between Lord Pingyuan and Lord Xinling?
- A. There was no relationship between them.
 - B. They were related by marriage.
 - C. They had a relationship of brotherhood.
 - D. They had a father son relationship.

Correct answer: B

4. From the contents of Text 1 and Text 2, what was the attitude of the King of Wei towards rescuing the state of Zhao? What was the reason?
- A. The King of Wei was unwilling to rescue the state of Zhao because the relationship between the two states was not good.
 - B. The King of Wei was unwilling to rescue Zhao because he was threatened by the King of Qin.
 - C. The King of Wei actively rescued the state of Zhao because the two states were neighbors.
 - D. The King of Wei actively rescued the State of Zhao, as Qin was a common enemy of both states.

Correct answer: B

5. From the contents of Text 1 and Text 2, what was the correct reason for the withdrawal of the Qin army from the state of Zhao?
- A. Lord Xinling followed Hou Ying's suggestion and stole military talisman to save Zhao.
 - B. The King of Wei sent general Jin Bi to lead the army to timely rescue Zhao.
 - C. Zhao honored King of Qin as the emperor.
 - D. The state of Qin accepted Zhao's request for peace.

Correct answer: A

Sub-Objective 2) Compare ideas and information across related texts.

6. What was the common background for the two stories in Text 1 and Text 2?
- A. Qin State was too powerful and constantly invaded other countries.
 - B. Many vassal states wanted to respect King of Qin as their emperor.
 - C. Zhao and Wei were both being attacked by Qin.
 - D. Both Zhao and Wei planned to surrender to Qin.

Correct answer: A

7. From the contents of Text 1 and Text 2, what were the differences between Lord Pingyuan and Lord Xinling?
- A. Lord Pingyuan had more power.

- B. Lord Pingyuan was wiser.
- C. Lord Xinling was even braver.
- D. Lord Xinling loved his state even more.

Correct answer: C

8. From the contents of Text 1 and Text 2, which of the following statements was incorrect about the similarities between Lu Zhonglian and Hou Ying?
- A. Both of them had wit.
 - B. Both of them were good at persuading others.
 - C. Both of them did not seek personal fame and fortune.
 - D. Both of them disliked the Qin state.

Correct answer: D

9. From the contents of Text 1 and Text 2, who had changed his attitude towards the state of Qin?
- A. King Anli of Wei State
 - B. Xin Yuanyan
 - C. Lu Zhonglian
 - D. Lord Xinling

Correct answer: B

10. From the contents of Text 1 and Text 2, it can be seen that Lord Pingyuan had some changes from the beginning to the end of the 2 stories. Which of the following statements is incorrect?
- A. He had changed from feeling discouraged and helpless when facing Lu Zhonglian to thanking him for his advice.
 - B. He had changed from hesitating to respect the King of Qin as emperor or not to rising up against the Qin army.
 - C. He had changed from following Xin Yuanyan's advice to expelling him from Zhao state.
 - D. He had changed from complaining about Lord Xinling to admiring him a lot.

Correct answer: C

Text 1: Lu Zhonglian Disagreed to Regard the King of Qin State as Emperor

(1) Qin troops besieged Handan, the capital of Zhao State. General Jin Bi, the general sent by the King Anli of Wei, rescued Zhao. However, both the king of Wei and Jin Bi were afraid of the Qin army, so the Wei army was stationed in Dangyin, which bordered Wei and Zhao, and did not dare to move forward.

(2) The king of Wei sent another general, Xin Yuanyan, to sneak into Handan City secretly. Through the Lord Pingyuan, the uncle of the King of Zhao State, Xin Yuanyan said to King of Zhao, “The reason why the State of Qin has stepped up its siege of Handan is that it fought with the King of Qi to claim the throne. Later, the King of Qi removed his throne title, which made the King of Qin State had to cancelled the throne title, too. Now, the State of Qi has become weaker and weaker, and only the State of Qin can claim hegemony among the states. It can be seen that the State of Qin is not greedy for the place of Handan, but its real purpose is to claim the throne. If the State of Zhao can send envoys to regard the King of Qin State as the Emperor of Qin, he will certainly be very happy, and withdraw from the Handan.” Lord Pingyuan had been hesitant and had not made a decision.

(3) At this time, Lu Zhonglian happened to visit Zhao. When the Qin army besieged Handan, he heard that the State of Wei wanted the State of Zhao to honor the King of Qin as emperor, so he went to see Lord Pingyuan and said, “What’s going on now?” Lord Pingyuan replied, “I, Zhao Sheng, dare not to talk about war now. One million soldiers of Zhao were defeated in Changping, and the Qin army is now going deep into Zhao and besieging Handan. There is no way to make them leave. The king of Wei sent a guest general, Xin Yuanyan, to persuade Zhao to regard the King of Qin State as the emperor of Qin. Now General Xin Yuanyan is in Handan. What can I say?” Lu Zhonglian said, “At the beginning, I thought you were a noble Lord. Today, I knew that you are not wise. Where is the guest named Xin Yuanyan from the State of Wei? Please let me rebuke him and let him go back to the State of Wei.” Lord Pingyuan said, “Then I will call him to meet you, sir!”

(4) So, Lord Pingyuan went to see Xin Yuanyan and said, “There is a wise scholar named Lu Zhonglian in the State of Qi. He is here now. I will introduce him to you and let him meet you.” Xin Yuanyan said, “I have heard of Mr. Lu Zhonglian, who is a noble and wise man in Qi. I, Xin Yuanyan, a minister of the King of Wei, have an important responsibility on this mission. I don’t want to see Mr. Lu Zhonglian.” But Lord Pingyuan said, “I have told him that you are here.” Xin Yuanyan had no choice but to meet Lu Zhonglian.

(5) After seeing Xin Yuanyan, Lu Zhonglian did not speak first. Xin Yuanyan said, “As far as I can see, all the people living in the besieged capital Handan, have their needs from the Lord of the Plains. But now when I see your appearance, it is not like the people who have their needs from Lord Pingyuan. Why do you stay in the besieged capital for a long time without leaving?” Lu Zhonglian said, “Those who think Bao Jiao (a recluse in the Zhou Dynasty, who was cynical) couldn’t tolerate

himself and died for himself are all wrong. Now, most people do not understand the cause of Bao Jiao's death, and think that he died for his own interests. The State of Qin abandoned the system of benevolence, righteousness and propriety and advocated the power of killing the enemy and decapitating the heads of people. It controlled its officials with power and forced its people like slaves. If the State of Qin is allowed to become the emperor without fear, and then further command the world with its own policies, I, Lu Zhonglian, will have to jump into the East China Sea to commit suicide. I cannot tolerate being its obedient people. The reason why I want to see the general is to help Zhao." Xin Yuanyan asked, "How will you help Zhao, sir?" Lu Zhonglian said, "I want Wei and Yan to send troops to save Zhao, while Qi and Chu would have helped it." Xin Yuanyan said, "I really think the State of Yan will obey you. But as for the State of Wei, I just came from the State of Wei. How can you make the State of Wei help the State of Zhao?" Lu Zhonglian replied, "That's because the State of Wei has not seen the danger of the King of Qin becoming emperor. If the State of Wei understands this, it will certainly help the State of Zhao!" Xin Yuanyan asked again, "What harm will it do to Wei if King of Qin becoming emperor?" Lu Zhonglian said: "Many years ago, the King of Qi once carried out a policy of benevolence and justice, and led all the states to court to see the Emperor of Zhou. At that time, the royal family of Zhou was poor and weak, and the states did not go to court to see him. Only the King of Qi went to see him. After more than a year, Emperor Lie of Zhou died, and all the states went to mourn, but the state of Qi went late. The new Emperor Xian of the Zhou was very angry, and said in the obituary to the state of Qi: 'The Emperor of Zhou died, like the world collapsed, and the new Emperor of Zhou was personally mourning. But the State of Qi just a frontier defense of Zhou in the east, and how dare you be late? You should have been killed.' Then, the king of Qi was so angry that he cursed: 'Bah! Your mother is just a servant.' It turned out to be the laughingstock of the world. The reason why King of Qi went to court with the Emperor Lie of Zhou when he was alive, and then insulted King Xian of Zhou after his father's death, was that he couldn't bear the excessive demands of the Zhou Dynasty! However, as the Son of Heaven, it is reasonable for the Emperor Xian of the Zhou to demand. There is nothing to make a fuss about."

(6) Xin Yuanyan said, "Sir, have you never seen a servant? Do ten servants follow one master because their strength and wisdom can't beat them? No, just because they are afraid of their master!" Lu Zhonglian asked, "So the relationship between Wei and Qin is like that between servants and masters?" Xin Yuanyan

replied, “Yes.” Lu Zhonglian said, “In that case, I can let the King of Qin cook and chop the King of Wei into meat paste!” Xin Yuanyan was very unconvinced and said, “Well, sir, what you said is too much. How can you let the King of Qin boil and chop the King of Wei into meat paste?” Lu Zhonglian said, “Sure, I can. I’ll tell you later. Once upon a time, the Marquis Gui, the Marquis E, and the king of Wen were the three marquises granted by the Emperor of Shang Dynasty. The Marquis Gui had a beautiful daughter, so he sent her to the Emperor of Shang’s harem. But the Emperor of Shang thought she was ugly, so he chopped the Marquis Gui into meat paste. The Marquis E tried his best to defend the Marquis Gui, so he was also killed by the Emperor of Shang and made into dried meat. When the king of Wen heard that, he sighed a long time, and Emperor of Shang imprisoned him in a warehouse in Youli for a hundred days, almost dead. What is the reason that these people, who like others, claim the throne, end up being made into meat paste and dried meat?”

(7) King Min of Qi was going to the State of Lu, and Yi Weizi drove with him. Yi Weizi asked the people of the State of Lu: “What kind of etiquette do you plan to use to receive my emperor?” The people of the State of Lu replied, ‘We are going to treat the king of your country with the standard of ten cows, ten sheep, and ten pigs.’ Yi Weizi said: ‘How can you receive our king with such etiquette? Our emperor is the Son of Heaven. The emperor patrols around the country. All the marquis and kings should leave their palaces and go to other places to hide. They should also hand over the keys, pick up their clothes, hold several cases, and wait for the emperor to eat in the hall. After the emperor has eaten, the marquis and kings can leave to deal with government affairs.’ Hearing this, the people of the State of Lu immediately locked the door and did not let them enter the city. King Min of Qi could not enter the State of Lu, but he was going to the place of Xue, passing the State of Zou. It happened that at this time, Marquis of Zou died. When King Min wanted to enter the city to mourn, Yi Weizi said to the new marquis, ‘The emperor comes to mourn. The master must move the coffin in the opposite direction, set up a mourning hall facing north in the south, and then let the emperor face south to mourn.’ The ministers of Zou said, ‘If we must do this, we will have to fight with death.’ Therefore, King Min of Qi did not have the courage to enter Zou State. The officials of the State of Lu and the State of Zou were very poor. They could not support their Marquis before his death, and could not bury him well after their death. However, once King Min of Qi asked them to perform the rite of the Son of Heaven, they could not accept it. Now the State of Qin is a big country with ten thousand carriages, and the State of Liang is also a big country with ten thousand

carriages. Both of them are big countries with ten thousand carriages, and each of them has the status of king. Just seeing that the State of Qin has won a battle before, you will respect Qin as emperor. In this way, the ministers of the states of Zhao, Han, and Wei are not as brave as the servants of Zou and Lu!

(8) “Moreover, once the State of Qin successfully realized its ambition of becoming emperor, it would immediately replace the ministers of the states. They will replace their officials who do not think they have talent, and replace those they hate and give duties to those close to them. They will also give their daughters and women who are good at destroying the virtuous and jealous to marquis and kings, slandering day and night. If such women entered the palace of the King of Wei, could the King of Wei still live in peace? And how can you continue to be favored by the King of Wei as before, General?” At this time, Xin Yuanyan stood up and paid obeisance twice to Lu Zhonglian. He apologized and said, “At first, I thought that Mr.Lu was a mediocre person. Now I know that Mr.Lu is a wise scholar. Please let me leave here. I dare not say anything about respecting Qin as emperor again.”

(9) After hearing of this, the general of the State of Qin withdrew the troops that had besieged Handan for fifty miles. It happened that Lord Xinling, the brother of the King of Wei State, seized the military power of the general Jin Bi and led the army to rescue Zhao and attack the Qin army. The Qin army retreated and left Handan.

(10) At this time, the Lord Pingyuan wanted to reward Lu Zhonglian. Lu Zhonglian repeatedly made concessions and refused to accept them. The Lord Pingyuan gave him a feast and wine. When they were drinking happily, Lord Pingyuan stood up and went forward to bless Lu Zhonglian with thousand jin of gold. Lu Zhonglian said with a smile, “What the people in the world value is to help people eliminate their troubles, relieve their dangers, and resolve their troubles without receiving any remuneration. If we say that we should receive remuneration, it is no different from a buyer or seller. I, Lu Zhonglian, cannot bear to do such a thing.” So, he said goodbye to the Lord Pingyuan and left the State of Zhao, never to see the Lord Pingyuan again.

Text 2: Lord Xinling Steals Military Talisman to Save Zhao State

(1) In the 20th year of King Anli of Wei State (257 BC), King Zhao of Qin State had defeated Zhao State's army in Changping, and then attacked Handan the capital city of Zhao State. Lord Xinling's sister is the wife of Lord Pingyuan, the younger brother of King Huiwen of Zhao State. Lord Pingyuan had sent letters to King Anli of

Wei State and Lord Xinling many times to ask for help. The king of Wei sent General Jin Bi to lead a hundred thousand troops to save Zhao State. When King Zhao of Qin heard the news, he sent envoys to warn the King of Wei, "I'm going to attack the State of Zhao. It's only a matter of time. After taking the State of Zhao, I'll mobilize troops to attack those who dares to save the State of Zhao now!" The king of Wei was very afraid, so he sent people to stop Jin Bi from marching and make him station his troops in Yecheng. In name, it was to save Zhao, but in fact, it was a two-sided strategy to see the development of the situation.

(2) The carriages of the Lord Pingyuan's envoys came to the State of Wei continuously, and they were in urgent need frequently. Lord Pingyuan blamed Lord Xinling and said: "The reason why I voluntarily married the State of Wei by relying on the State of Wei is that you are noble in morality and can help others out of danger. Handan is in danger now, and sooner or later will surrender to the State of Qin, but the State of Wei has not been able to rescue soldiers. What is the reason why you can help others out of danger? Besides, if you don't take me seriously and abandon me to surrender to the State of Qin, won't you pity your sister?" Lord Xinling was extremely worried about this matter. He repeatedly asked the King of Wei to send troops as soon as possible, and asked other ministers to persuade the King of Wei by all means. The king of Wei was afraid of the State of Qin and refused to listen to the Lord Xinling's advice.

(3) Lord Xinling estimated that the King of Wei could not agree to send troops, so he decided not to live on his own and let Zhao perish. So, he invited hangers-on to gather more than 100 chariots and planned to take them to the battlefield to fight with the Qin army and die with the Zhao State's people. When Lord Xinling led his small troops through the East Gate, he went to see Mr. Hou and told him all about his plans to fight with the Qin army. Then he said goodbye to Hou Ying and prepared to go on his way. Before leaving, Hou Ying said, "Work hard, Lord. I can't go with you." After walking for several miles, Lord Xinling felt unhappy and said to himself, "I have treated Mr. Hou well enough. Everyone knows that I am going to die now, but Mr. Hou has not said a word to see me off. Am I wrong with him?" So, he hurried back to ask Hou Ying. When Hou Ying saw Lord Xinling coming back, he smiled and said, "I knew that you would come back." Then he said, "You are famous for your hospitality and love of people. Now you are in danger. Your small troops that want to fight with Qin State is like throwing meat to a hungry tiger. What's the use of our guests? You treat me with deep affection. You go there but I don't see you off. So, I know you hate me and you will return."

(4) Lord Xinling paid homage to Hou Ying twice in succession, and then asked for countermeasures. Hou Ying asked others to leave and talk with Lord Xinling secretly: "I heard that Jin Bi's military talisman was often kept in the bedroom of the King of Wei. Ruji was the favorite among his wives and concubines. She was very casual in and out of the bedroom of the King of Wei. She could steal the military talisman if she tried her best. I also heard that Ruji's father had been killed. Ruji's desire to revenge had been accumulated for three years. All the officials below the King of Wei wanted to revenge for Ruji, but they failed to do so. For this reason, Ruji cried to you, and a warrior of you killed Ruji's enemy. Ruji is willing to die for you, but she has no chance to act. As soon as you ask Ruji for help, she will certainly agree. Then you can get the military talisman and seize Jin Bi's military power. You can save Zhao in the north and defend Qin in the west." Lord Xinling accepted Hou Ying's plan and asked Ruji for help. Ruji really stole Jin Bi's military talisman and gave it to Lord Xinling.

(5) When Lord Xinling got military talisman and was ready to go, Hou Ying said: "When the general is fighting outside, he can ignore the king's order for the sake of state's interests. Jin Bi probably won't give you military power. He will ask the King of Wei for confirmation. This is a very dangerous situation. My friend Zhu Hai can go with you. He is a strong man. It would be great if Jin Bi obeys the arrangements. If Jin Bi doesn't listen to your arrangements, you can let Zhu Hai attack Jin Bi." Then Lord Xinling began to cry. Hou Ying said, "Are you afraid of death? Why are you crying?" Lord Xinling said, "Jin Bi is a brave and skilled veteran. I'm afraid he will not obey my plan and will be killed. So, I cry. I'm not afraid of death!" So Lord Xinling invited Zhu Hai and invited him to go together. Zhu Hai said with a smile, "I'm just a butcher in the market, and you have come to visit me many times in person, Lord. The reason why I didn't say thank you is because small etiquette is useless. Today, you have something urgent, and this is the time for me to serve you." Then Zhu Hai and Lord Xinling set out together. Lord Xinling thanked Hou Ying. Hou Ying said, "I should have followed you, but I am too old to go. Please let me count the date of your departure. When you arrive in the Jin Bi army, I will kill myself in the north to see you off." So, Lord Xinling set out.

(6) When Lord Xinling arrived in Yecheng, he took out armorial script and passed on the order of the king of Wei to replace Jin Bi as the general. Jin Bi agreed with military talisman, which proved to be true, but he still doubted it. He raised his hand and stared at the Lord Xinling, saying, "Now I am commanding a large army of 100,000 people, stationed on the border, which is an important task related to the

fate of the country. Today you are replacing me alone. What is the matter?" He was about to reject an order. At this time, Zhu Hai took out a heavy iron vertebra hidden in his sleeve and killed Jin Bi. Then Lord Xinling commanded Jin Bi's army. He reorganized the army and gave an order to the army, "If father and son are in the army, the father will go home; if the brothers are in the army, the elder brother will go home; if the only son of a family is in the army, he will go home to support his parents." After rectification and selection, 80000 excellent soldiers were obtained to attack the Qin army. The Qin army escaped from the encirclement, so Handan was saved and Zhao State was saved. Lord Pingyuan of Zhao came to the suburb in person to meet Lord Xinling, and led the way for the him, carrying his bag full of arrows. King of Zhao State thanked Lord Xinling twice and said, "No sage has caught up with you since ancient times." At this time, Lord Pingyuan dares not compare himself with others.

(7) After Lord Xinling said goodbye to Hou Ying, on the day he arrived at the Yecheng military camp, Hou Ying cut his throat and died facing the north. The king of Wei State was angry that Lord Xinling had stolen his armorial script and passed on a fake order and killed Jin Bi. So, after defeating the Qin army and saving the state of Zhao, Lord Xinling asked the Wei troops to return to the state of Wei, while he himself and his hangers-on stayed in the state of Zhao.

Test of Ancient Chinese Reading Summarizing Ability

Testing Paper 4

Objective 4: Evaluate and critique content.

Class:

Student No.:

Name:

Direction: Please read the following story and choose the best answer.

Sub-Objective 1): Form judgement about content.

1. In paragraph (1), King Xiang of Chu said to Zhuang Xin, "Is it because you are old and confused?" Do you think he was right to say such words? Why?
- A. He was right because it showed that he was very concerned about Zhuang Xin.
 - B. He was right because he made an objective evaluation of Zhuang Xin.
 - C. He was wrong because he exaggerated Zhuang Xin's age.
 - D. He was wrong because he was too impolite to Zhuang Xin.

Correct answer: D

2. In paragraph (1), Zhuang Xin said, " Chu State must be subjugated." Do you think he was right to say such words? Why?
- A. He was right because his worries were well founded.
 - B. He was right because he predicted things like God.
 - C. He was wrong because he wanted to threaten King Xiang of Chu.
 - D. He was wrong because he hoped for the downfall of the Chu state.

Correct answer: A

3. In paragraph (3), Zhuang Xin said, " It's not too late to send hunting dogs after seeing rabbits, and it's not too late to mend sheepfold after losing sheep." Do you think his words was right? Why?
- A. He was right because King Xiang of Chu could retrieve the lost rabbits and sheep by this way.
 - B. He was right because it could encourage King Xiang of Chu not to get discouraged.
 - C. He was wrong because it had no effect on changing the predicament of the state of Chu.
 - D. He was wrong because it would cause King Xiang of Chu to lose more property.

Correct answer: B

4. In paragraph (7), do you think Marquis Ling of Cai State did the right thing when he " played at Gaopi in the south, climbed Wushan mountain in the north"? Why?
- A. He did the right thing because he had a happy life.
 - B. He did the right thing because he disregarded personal danger and patrolled the state.

- C. He did the wrong thing because he was greedy for pleasure and didn't realize the danger.
- D. He did the wrong thing because he disregarded personal danger which was harmful to the state.

Correct answer: C

5. In paragraph (9), King Xiang of Chu "his face and trembled all over." Do you think his behavior was correct? Why?
- A. His behavior was wrong because it indicated that he was very angry with Zhuang Xin's words.
 - B. His behavior was wrong because it indicated that he was very timid.
 - C. His behavior was normal because it indicated his hatred towards the Qin state.
 - D. His behavior was normal because it indicated that Zhuang Xin's words had created a sense of danger for him.

Correct answer: D

Sub-Objective 2): Offer both negative and positive analysis of the content, writing, and structure of a text.

6. What negative and positive analysis do you have on the content of this story?
- A. The content of this story is negative, showing that the kings inevitably trusted villains.
 - B. The content of this story is negative, reflecting those kings often only purchased comfort in front of them.
 - C. The content of this story is positive, reflecting the patriotic minister's courage to advise and his concern for the safety of the country.
 - D. The content of this story is positive, demonstrating the strong power of the Qin state.

Correct answer: C

7. Do you have any negative or positive analysis of the characters in this story? Which of the following statements is incorrect?
- A. Zhuang Xin was not entirely a positive figure, because he fled to the state of Zhao when he failed to persuade King Xiang of Chu the first time.
 - B. Zhuang Xin was a completely positive figure, because he knew how to be vigilant in times of peace and was good at persuading others.
 - C. King Xiang of Chu was mainly a villain, because he only sought immediate pleasure and lost vigilance against the enemy.

D. Marquis Zhou, Marquis Xia, Lord Yanling and Lord Shouling were all villains, because they confused the king and posed harm to the state.

Correct answer: A

8. Why did Zhuang Xin use the order of examples such as the dragonfly, yellow sparrow, yellow swan, and Marquis Ling of Cai State? What negative or positive analysis do you have? Which of the following statements is incorrect?
- A. This order was very correct, as it progressed step by step from small to large.
 - B. This order was very correct, as it made the situation become increasingly urgent from far to near.
 - C. This order was very correct, because it greatly touched the King of Chu Xiang by the examples from animals to human being.
 - D. This order was not very good, because it was very chaotic and randomly arranged.

Correct answer: D

9. What are the characteristics of Zhuang Xin's two persuasions to King Zhuang of Chu? What negative or positive analysis do you have? Which of the following statements is incorrect?
- A. His first persuasion was unsuccessful because he adopted a very direct way.
 - B. His first persuasion adopted a very direct method, but the reason for his failure was that King Zhuang of Chu did not realize the danger in the future.
 - C. His second persuasion was very successful, which was related to his persuasive skill of using metaphors.
 - D. His second persuasion was very successful, which was related to his persuasive skill of parallelism and step-by-step progress.

Correct answer: A

10. Do you have any negative or positive analysis about the structure or writing techniques of the entire story? Which of the following statements is incorrect?
- A. The entire plots of the story are very compact and well detailed.
 - B. It mainly relies on dialogues to express the story plots and character traits, which is very distinctive.
 - C. Metaphors are used in dialogues to explain the truth, but they are quite verbose and cumbersome, and should be simplified.
 - D. The beginning of the story gets to the point, cut straight to the topic, and echo at the end of the story, and have a complete story structure.

Correct answer: C

Text: Zhuang Xin Persuaded King Xiang of Chu State

(1) Zhuang Xin said to King Xiang of Chu State, “My king, you always have Zhou Marquis on the left, Xia Marquis on the right, and Lord Yanling and Lord Shouling behind your carriage. You are always extravagant and ignore political affairs. Ying, the capital of Chu State, must be dangerous!” King Xiang of Chu said, “Is it because you are old and confused? Or do you think it is an omen of bad luck in Chu?” Zhuang Xin said, “I really see the inevitable result of your doing so, and I dare not think it is a bad omen for the state. You, my king, has always favored these four people, and the Chu State must be subjugated. I asked for taking refuge in Zhao State and staying for a long time to see the changes of Chu State.

(2) Zhuang Xin left the State of Chu and went to the State of Zhao. He lived there for only five months, and then the State of Qin sent troops to capture Yan, Ying, Wu, Shangcai and Chen (the cities of Chu State). King Xiang of Chu also went into exile and hid in Chengyang. At that time, King Xiang of Chu sent his cavalry to Zhao to invite Zhuang Xin back to Chu. Zhuang Xin said, “OK.”

(3) When Zhuang Xin was back, King Xiang of Chu said to him, “I didn't take your advice. Now that things have come to this point. What should I do with the current situation?” Zhuang Xin replied, “I know an old saying, ‘It's not too late to send hunting dogs after seeing rabbits, and it's not too late to mend sheepfold after losing sheep.’ I heard that in the past, King Tang of Shang and King Wu of Zhou relied on only hundreds of miles of land to make the world prosperous, while King Jie of Xia and King Zhou of Shang, although they owned the world, eventually lost the world and died. Although the land of Chu is small now, we still have tens of thousands of miles, not even hundreds of miles!”

(4) “Haven't you seen dragonflies? With six feet and four wings, a dragonfly flies between heaven and earth. He lowers his head to peck at mosquitoes, and rises to drink sweet dew. He thinks he has no worries and no disputes with people. But he doesn't know that a child of several years old is mixing syrup which will be smeared on the top of a long stick to catch him high above the sky, and then he will be eaten by mole crickets and ants.”

(5) “The matters of dragonflies are trifles, so are yellow finches. A yellow finch leans down to peck white rice and perches on the luxuriant trees. He plucks up and shakes his wings, thinking that he has no worries and does not argue with others. But he doesn't know that grandchildren of king or nobles are held a slingshot to shot him at a height of eight feet, targeting its neck. In an instant, he was shot. The yellow

finch is wandering in the forest during the day, but is made delicious food with seasoning at night.”

(6) The matters of yellow finches are trifles, so are yellow swans. A yellow swan roams in the river and sea, stays beside the marsh, lowers its head to swallow the eel and carp, raises its head to eat the water chestnut and water grass, shakes its wings and overrides the breeze, flutters and flies in the sky, and thinks that there will be no disaster, and does not fight with people. However, he doesn't know that the archer had prepared an arrow and bow to shoot it at a height of about 700 feet. It will fall down from the wind and fall to the ground with arrows and fine arrow ropes. The yellow swan still swims in the lake during the day and becomes a delicious stew in the pot at night.

(7) “The matters of yellow swans are trifles, so is the matter of Marquis Ling of Cai State. He played at Gaopi in the south, climbed Wushan mountain in the north, drank water from Ruxi, and ate fish from Xiang River. He held a young concubine in his left arm and a beloved beauty in his right arm, regardless of state's affairs. But he didn't know that Zifa, a general of Chu State, was accepting the order of the King Ling of Chu State and tied him up with a red rope to see the King Ling of Chu State and then killed him.”

(8) The affairs of Marquis Ling of Cai State are trivial, so are the affairs of you, my king. On the left side of you is the Mmarquis Zhou, on the right side is the Marquis Xia. And Lord Yanling and Lord Shouling behind your carriage. You all ate the grain offered by the various towns, and used the gold and silver presented by the local government. You rode and played in Yunmeng, never paying attention to the state's affairs. But you don't know that Marquis Rang, a minister of Qin State, was under the command of the King of Qin. He had located troops in the southern part of fort and drove you, my king, to the northern part of the fort.

(9) Hearing Zhuang Xin's words, King Xiang of Chu changed his face and trembled all over. So, he granted Zhuang Xin as Lord Yangling, who soon regained the land of Huaibei for King Xiang of Chu.

Appendix Table 4.14 Relative developmental score of overall individual students' ancient Chinese reading summarizing ability of total 4 dimensions

No.	Total Pretest Score of Total 4 Dimensions	Total Posttest Score of Total 4 Dimensions	Relative Developmental Score of Total 4 Dimensions	Development Level of Total 4 Dimensions
1	22	32	55.56	High
2	23	33	58.82	High
3	25	36	73.33	High
4	29	39	90.91	Very High
5	28	39	91.67	Very High
6	28	37	75.00	High
7	27	39	92.31	Very High
8	28	39	91.67	Very High
9	29	37	72.73	High
10	24	36	75.00	High
11	28	37	75.00	High
12	23	36	76.47	Very High
13	28	37	75.00	High
14	28	37	75.00	High
15	28	40	100.00	Very High
16	28	39	91.67	Very High
17	29	40	100.00	Very High
18	21	32	57.89	High
19	29	40	100.00	Very High
20	22	36	77.78	Very High
21	27	37	76.92	Very High
Total Average	26.38	37.05	78.32	Very High

Appendix Table 4.16 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Dimension 1

No.	Pretest Score of Dimension 1	Posttest Score of Dimension 1	Relative Developmental Score of Dimension 1	Development Level of Dimension 1
1	5	7	40.00	Moderate
2	6	8	50.00	Moderate
3	7	9	66.67	High
4	6	10	100.00	Very High
5	7	10	100.00	Very High
6	7	9	66.67	High
7	7	10	100.00	Very High
8	6	10	100.00	Very High
9	7	9	66.67	High
10	6	9	75.00	High
11	7	9	66.67	High
12	7	9	66.67	High
13	8	10	100.00	Very High
14	7	9	66.67	High
15	6	10	100.00	Very High
16	7	10	100.00	Very High
17	7	10	100.00	Very High
18	5	8	60.00	High
19	7	10	100.00	Very High
20	6	9	75.00	High
21	7	9	66.67	High
Total Average	6.57	9.24	77.78	Very High

Appendix Table 4.18 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Dimension 2 (Interpret ideas and information)

No.	Pretest Score of Dimension 2	Posttest Score of Dimension 2	Relative Developmental Score of Dimension 2	Development Level of Dimension 2
1	6	8	50.00	Moderate
2	4	8	66.67	High
3	6	9	75.00	High
4	7	9	66.67	High
5	7	10	100.00	Very High
6	7	9	66.67	High
7	6	10	100.00	Very High
8	7	9	66.67	High
9	7	9	66.67	High
10	7	10	100.00	Very High
11	7	9	66.67	High
12	6	9	75.00	High
13	8	10	100.00	Very High
14	6	9	75.00	High
15	6	10	100.00	Very High
16	7	10	100.00	Very High
17	7	10	100.00	Very High
18	5	8	60.00	High
19	7	10	100.00	Very High
20	5	9	80.00	Very High
21	6	9	75.00	High
Total Average	6.38	9.24	78.95	Very High

Appendix Table 4.20 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 2

No.	Pretest Score of Section 1 of Dimension 2	Posttest Score of Section 1 of Dimension 2	Relative Developmental Score of Section 1 of Dimension 2	Development Level of Section 1 of Dimension 2
1	3	4	50.00	Moderate
2	2	5	100.00	Very High
3	2	4	66.67	High
4	4	5	100.00	Very High
5	4	5	100.00	Very High
6	4	5	100.00	Very High
7	3	5	100.00	Very High
8	4	5	100.00	Very High
9	4	5	100.00	Very High
10	3	5	100.00	Very High
11	4	5	100.00	Very High
12	3	5	100.00	Very High
13	4	5	100.00	Very High
14	3	4	50.00	Moderate
15	3	5	100.00	Very High
16	3	5	100.00	Very High
17	3	5	100.00	Very High
18	3	5	100.00	Very High
19	4	5	100.00	Very High
20	3	4	50.00	Moderate
21	4	5	100.00	Very High
Total Average	3.33	4.81	88.59	Very High

Appendix Table 4.22 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 2

No.	Pretest Score of Section 2 of Dimension 2	Posttest Score of Section 2 of Dimension 2	Relative Developmental Score of Section 2 of Dimension 2	Development Level of Section 2 of Dimension 2
1	3	4	50.00	Moderate
2	2	3	33.33	Moderate
3	4	5	100.00	Very High
4	3	4	50.00	Moderate
5	3	5	100.00	Very High
6	3	4	50.00	Moderate
7	3	5	100.00	Very High
8	3	4	50.00	Moderate
9	3	4	50.00	Moderate
10	4	5	100.00	Very High
11	3	4	50.00	Moderate
12	3	4	50.00	Moderate
13	4	5	100.00	Very High
14	3	5	100.00	Very High
15	3	5	100.00	Very High
16	4	5	100.00	Very High
17	4	5	100.00	Very High
18	2	3	33.33	Moderate
19	3	5	100.00	Very High
20	2	5	100.00	Very High
21	2	4	66.67	High
Total Average	3.05	4.43	70.73	High

Appendix Table 4.24 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Dimension 3

No.	Pretest Score of Dimension 3	Posttest Score of Dimension 3	Relative Developmental Score of Dimension 3	Development Level of Dimension 3
1	5	8	60.00	High
2	6	8	50.00	Moderate
3	6	9	75.00	High
4	8	10	100.00	Very High
5	7	9	66.67	High
6	7	10	100.00	Very High
7	7	9	66.67	High
8	7	10	100.00	Very High
9	7	9	66.67	High
10	5	8	60.00	High
11	8	10	100.00	Very High
12	5	9	80.00	Very High
13	5	8	60.00	High
14	7	9	66.67	High
15	8	10	100.00	Very High
16	8	10	100.00	Very High
17	7	10	100.00	Very High
18	5	8	60.00	High
19	7	10	100.00	Very High
20	5	9	80.00	Very High
21	8	10	100.00	Very High
Total Average	6.57	9.19	76.39	Very High

Appendix Table 4.26 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 3

No.	Pretest Score of Section 1 of Dimension 3	Posttest Score of Section 1 of Dimension 3	Relative Developmental Score of Section 1 of Dimension 3	Development Level of Section 1 of Dimension 3
1	3	4	50.00	Moderate
2	3	4	50.00	Moderate
3	3	5	100.00	Very High
4	4	5	100.00	Very High
5	3	4	50.00	Moderate
6	4	5	100.00	Very High
7	4	5	100.00	Very High
8	4	5	100.00	Very High
9	4	5	100.00	Very High
10	2	4	66.67	High
11	4	5	100.00	Very High
12	3	4	50.00	Moderate
13	4	5	100.00	Very High
14	4	5	100.00	Very High
15	4	5	100.00	Very High
16	4	5	100.00	Very High
17	4	5	100.00	Very High
18	3	4	50.00	Moderate
19	4	5	100.00	Very High
20	4	5	100.00	Very High
21	4	5	100.00	Very High
Total Average	3.62	4.71	79.31	Very High

Appendix Table 4.28 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 3

No.	Pretest Score of Section 2 of Dimension 3	Posttest Score of Section 2 of Dimension 3	Relative Developmental Score of Section 2 of Dimension 3	Development Level of Section 2 of Dimension 3
1	2	4	66.67	High
2	3	4	50.00	Moderate
3	3	4	50.00	Moderate
4	4	5	100.00	Very High
5	4	5	100.00	Very High
6	3	5	100.00	Very High
7	3	4	50.00	Moderate
8	3	5	100.00	Very High
9	3	4	50.00	Moderate
10	3	4	50.00	Moderate
11	4	5	100.00	Very High
12	2	5	100.00	Very High
13	1	3	50.00	Moderate
14	3	4	50.00	Moderate
15	4	5	100.00	Very High
16	4	5	100.00	Very High
17	3	5	100.00	Very High
18	2	4	66.67	High
19	3	5	100.00	Very High
20	1	4	75.00	High
21	4	5	100.00	Very High
Total Average	2.95	4.48	74.42	High

Appendix Table 4.30 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Dimension 4

No.	Pretest Score of Dimension 4	Posttest Score of Dimension 4	Relative Developmental Score of Dimension 4	Development Level of Dimension 4
1	6	9	75.00	High
2	7	9	66.67	High
3	6	9	75.00	High
4	8	10	100.00	Very High
5	7	10	100.00	Very High
6	7	9	66.67	High
7	7	10	100.00	Very High
8	8	10	100.00	Very High
9	8	10	100.00	Very High
10	6	9	75.00	High
11	6	9	75.00	High
12	5	9	80.00	Very High
13	7	9	66.67	High
14	8	10	100.00	Very High
15	8	10	100.00	Very High
16	6	9	75.00	High
17	8	10	100.00	Very High
18	6	8	50.00	Moderate
19	8	10	100.00	Very High
20	6	9	75.00	High
21	6	9	75.00	High
Total Average	6.86	9.38	80.30	Very High

Appendix Table 4.32 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 1 of Dimension 4

No.	Pretest Score of Section 1 of Dimension 4	Posttest Score of Section 1 of Dimension 4	Relative Developmental Score of Section 1 of Dimension 4	Development Level of Section 1 of Dimension 4
1	4	5	100.00	Very High
2	3	4	50.00	Moderate
3	3	5	100.00	Very High
4	4	5	100.00	Very High
5	3	5	100.00	Very High
6	4	5	100.00	Very High
7	4	5	100.00	Very High
8	4	5	100.00	Very High
9	4	5	100.00	Very High
10	3	4	50.00	Moderate
11	4	5	100.00	Very High
12	3	5	100.00	Moderate
13	4	5	100.00	Very High
14	4	5	100.00	Very High
15	4	5	100.00	Very High
16	3	4	50.00	Moderate
17	4	5	100.00	Very High
18	3	4	50.00	Moderate
19	4	5	100.00	Very High
20	3	4	50.00	Moderate
21	3	4	50.00	Moderate
Total Average	3.57	4.71	80.00	Very High

Appendix Table 4.34 Relative developmental score of individual students' ancient Chinese reading summarizing ability of Section 2 of Dimension 4

No.	Pretest Score of Section 2 of Dimension 4	Posttest Score of Section 2 of Dimension 4	Relative Developmental Score of Section 2 of Dimension 4	Development Level of Section 2 of Dimension 4
1	2	4	66.67	High
2	4	5	100.00	Very High
3	3	4	50.00	Moderate
4	4	5	100.00	Very High
5	4	5	100.00	Very High
6	3	4	50.00	Moderate
7	3	5	100.00	Very High
8	4	5	100.00	Very High
9	4	5	100.00	Very High
10	3	5	100.00	Very High
11	2	4	66.67	High
12	2	4	66.67	High
13	3	4	50.00	Moderate
14	4	5	100.00	Very High
15	4	5	100.00	Very High
16	3	5	100.00	Very High
17	4	5	100.00	Very High
18	3	4	50.00	Moderate
19	4	5	100.00	Very High
20	3	5	100.00	Very High
21	3	5	100.00	Very High
Total Average	3.29	4.67	80.56	Very High

Appendix E
Certificate of English

BS
RU BANSOMDEJCHAOPRAYA
RAJABHAT UNIVERSITY

This is to certify that

Mrs. Jie Zhang

Achieved BSRU English Proficiency Test (BSRU-TEP) level

C2

Given on 13th February 2022



(Assistant Professor Dr Kulsirin Aphiratvoradej)
Director



Appendix F

The Document for Acceptance Research

MHESI 8038.1/02



**Mcu Ubonratchathani journal
of Buddhist Studies (TCI.2)**
Mahachulalongkornrajavidyalaya
University, Ubon Ratchathani Campus

RESPONSE FOR PUBLICATION OF THE ARTICLE

9th August 2023

The Editorial Department of Mcu Ubonratchathani journal of Buddhist Studies (TCI.2) MCU, Ubon Ratchathani Campus has considered the article

Title INTEGRATION OF MIND MAPPING AND PROBLEM-BASED LEARNING INSTRUCTIONAL MODEL TO ENHANCE ANCIENT CHINESE READING SUMMARIZING ABILITY FOR UNDERGRADUATE STUDENT IN SOUTHWEST JIAOTONG UNIVERSITY

Writer Zhang Jie, Areewan Iamsa-ard, Wapee Kong-In and Suriya Phankosol

Publication Approval Mcu Ubonratchathani journal of Buddhist studies (ISSN : 2774-0463 (Online)) Mahachulalongkornrajavidyalaya University, Ubon Ratchathani Campus

Period of Publication 5th Year, Volume III (September-December, 2023)

Your article has been sent to 3 experts for peer review and found that its quality is at a “Good” level and academically useful.

Please be informed accordingly.

(Assoc.Prof. Dr. Phrakhruwutthidhampandit)
Editor of Mcu Ubonratchathani journal of Buddhist studies (TCI)
Mahachulalongkornrajavidyalaya University,
Ubon Ratchathani Campus

The Editorial Department of Mcu Ubonratchathani journal of Buddhist studies (TCI)
Mahachulalongkornrajavidyalaya University, Ubon Ratchathani Campus
Somdet Rd. (7th Km.), Tambon Krasobe,
Mueang Ubon Ratchathani District, Ubon Ratchathani Province, 34000
The Editor: Tel 081-7908464, Coordinator: Tel. 081-2642443
E-mail: Sripracho2515@gmail.com, Website: <https://journal.ubonmcu.org>

Researcher Profile

Name- Surname Zhang Jie

Day/Month/Year 21, April, 1980

Address

No.822, Xiaoyuan Road, Pidu District, Chengdu City, Sichuan Province, China

Education

- 1998- 2002 Bachelor of ART in Sichuan International Studies University
- 2004- 2007 Master of ART in Sichuan University

Working experience

- 2002-2004 Teach in Chengdu Tongjin Middle School
- 2007-2023 Teach in Southwest Jiaotong University