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Task-Based Learning Strategies for Developing Students' Textual Understanding and Critical Thinking Abilities in An English Intensive Reading Class

Thesis submitted for the degree of

Professional Doctorate

in

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By
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Tingting Wang

Abstract

The focus of global competition among countries has been transferred to the cultivation of talents in various fields. Innovative spirit and ability are the key characteristic of talents, while critical thinking is the precondition and basis of innovative thinking. Therefore, the cultivation of critical thinking is urgent and most significant. In China, existing research focuses more on the theory introduction and scale design of critical thinking, less on empirical and systematic study. This study is to combine Task-Based Learning teaching approach and cooperative learning to form a new teaching mode---Teaching Trilogy Mode and to study the potential problems and teaching effects of this mode in cultivating students' critical thinking ability and improving students' reading comprehension ability.

Through a semester of researching, it is found that: Teaching Trilogy mode can help students form the habit of critical thinking. Task-based Learning approach used in groups can help students overcome the pressure from the classroom teaching and promote more active attendance in classroom discussion. With critical thinking skills, students can have a further understanding of the reading materials.

The implications of this study for teaching are as follows: Critical thinking habit can be trained through Teaching Trilogy. Critical thinking skills can make students shift from passive learning to autonomous learning. Suitable tasks in groups can stimulate individual participation and bring significant achievements. By showing sincere welcome to questions, teachers can encourage students asking questions.

The innovation and significance of this study lies in: The introduction of Teaching Trilogy mode and action research into the teaching and research of college English intensive reading class cannot only expand the research method and perspective, but also enrich the teaching theory. The Teaching Trilogy mode and teaching design are constructed and optimized through this study, and it is more targeted and conductive to teaching. Task-based approach combined with group cooperative learning brought vigor and vitality to each student as well as the college English intensive reading class. The Teaching Trilogy mode provides a clue for the similar study in other subjects.

Key words: Innovative Talents, Critical Thinking, Task-based Learning, Group cooperative learning, Teaching Trilogy, Action research.

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I am a student in the U.K. meanwhile; I am a teacher in China. Thanks for my colleagues in China, who undertook part of my teaching tasks to ensure more time for writing this thesis. And the same gratitude to the director and the two teachers in the research institute, as well as the 180 student participants. Thanks for their cooperation, the study has been carried on smoothly.

Last but not least, I am deeply in debt to my beloved mother and mother-in-law for their financial support, continuous encouragement, and understanding for fulfilling my dream of further study. Great thanks also go to my husband Di Wu, who had encouraged me and comfort me when I encounter difficulty or frustration. In addition, I am grateful to my son Zeyufan Wu, for his encouragement and accompany when I was studying in the U.K.

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List of Abbreviations

BERA……...British Educational Research Association.

CCEE ……...China's College Entrance Examination

CCTDI……..California Critical Thinking Disposition Inventory

CCTDI-cv…….California Critical Thinking Disposition Inventory—Chinese Version

EFL……...English as Foreign Language

TBL……. ……Task-based Learning

TESOL…….Teaching English to Speakers of Other Languages

TT Mode……..Teaching Trilogy Mode

Chapter 1 Introduction

1.1 Purpose of the research

The Ministry of Education in China promulgated the Outline of the National Medium- and Long-Term Education Reform and Development Plan (2010-2020) in July 2010, which clearly stated that to build an innovative country, it is necessary to cultivate innovative talents with innovative spirit and ability to solve practical problems. In the process of cultivating innovative talents, educators should focus on the combination of learning and thinking, and advocate heuristic, inquiry, discussion, and participatory teaching. In today's world, knowledge has increasingly become a decisive factor in improving comprehensive national strength and international competitiveness, and human resources have increasingly become a strategic resource for economic development. The cultivation of innovative talents is the top part of the entire talent training system, and it is also the most difficult part in China's education. Innovative thinking is the primary quality of innovative talents. As Einstein (1977) emphasized, discovering problems and formulating problems may be more important than getting answers. Getting answers may only need the knowledge of mathematics or experimental skills; however the raising of new questions and new possibilities, considering old problems from new perspectives requires creative imagination and marks a real advance in science. In innovative thinking activities, emphasis is placed on multi-faceted thinking, analysis, reasoning, and judgment, and these skills are precisely the core elements of critical thinking, so critical thinking is the premise and foundation of innovative thinking; innovative thinking is the purpose and destination of critical thinking (Zhou, 2014).

The purpose of this study is to find out the causes of current learning situation, and dig out the barriers for students' critical thinking. A new teaching approach with different tasks with strategies for developing critical thinking ability was designed to cultivate students' habit of critical thinking, master the skills of critical thinking, and promote students' understanding of the reading materials and their learning efficiency through critical thinking in college English intensive reading class. Finally, the actual effect after implementing the new teaching approach was checked. Of course, the transfer of critical thinking skills between disciplines was also a potential research purpose of this study.

The study is based on the following research questions:

There are five research questions:

RQ1.Why is it important to improve students' critical thinking skills?

RQ2.What are the benefits students can get from critical thinking skills in English reading class?

RQ3.What strategies are efficient and effective for training students' critical thinking ability?

RQ4.How are students' critical thinking abilities developed through the research?

RQ5.Can those teaching approach help students have further understanding of the reading materials?

This study adopts the research method of action research, conducts qualitative research and quantitative research on the data provided by 180 participants, such as questionnaire data, interview data, exam data, and test data. It implemented the Teaching Trilogy mode as well as Task-based Learning and Cooperative learning into English intensive reading class for improving critical thinking ability.

1.2 Research background

Having critical thinking ability is needed all over the world. In England, the rationale for the revised National Curriculum (1999) states that thinking skills are essential in "learning how to learn". Teaching thinking is not viewed as a marginal activity but as an essential foundation on which to build a love of learning (Fisher, 2000). In the National curriculum in England: Key stages 3 and 4 framework document (2014), for the reading of English Subject of Key 3, it required "read critically through making critical comparisons across texts"(p.15); for Key 4, it required "understand and critically evaluate texts through identifying and interpreting theme, ideas and information"(p.18). China is eager for creative talents, too. In 2004, the Ministry of Education of China decided to further increase its efforts to implement the "High-level Creative Talents Program" of higher education institutions. The program is to cultivate and gather a group of internationally leading academic leaders, a large number of young academic leaders and academic elites with innovative ability and development potential, a group of outstanding innovation teams will be formed, and the overall quality of the teaching staff of higher education will be promoted. This is a calling for creative and innovative teachers and academic leaders. The Ministry of Education in China promulgated the Outline of the National Medium- and Long-Term

Education Reform and Development Plan (2010-2020) in July 2010, which clearly stated that to build an innovative country, it is necessary to cultivate innovative talents with innovative spirit and ability to solve practical problems. Only when the teachers have the capacity of creative thinking, the students may have the chance to obtain that thinking skill from the teaching. Critical thinking can be seen as a foundation of personal development. It may not bring short-term benefit, however, it can develop students' capacity to learn, think, and act in the long-term. With critical thinking ability, they can solve problems in their studies as well as difficulties in their lives. When they face challenges, they can deal with it more positively and effectively.

Although critical thinking ability has attracted all the attention, studies with university students in China have indicated that critical thinking skills are not well developed. According to Tian (2011) and Zhou (2015), Chinese higher education students demonstrate a lack of critical thinking abilities. Although college students are given English extensive reading as assignments after class and spend significant amounts of time dealing with intensive reading texts in class, they don't make satisfactory progress as expected. In intensive reading classes, students get used to react only when they are asked questions by the teacher; otherwise, many students are prone to passively receive the teachers' analysis of the text. This passive learning habit is formed from their primary school to high school years, when teachers are given limited time in class to convey a large quantity of information to students. This pedagogy is enforced by circumstances beyond teachers' control. Although most of the teachers have the idea that good designed classroom teaching with interesting activities can trigger students' learning motivation, they are not allowed to spend the constrained time in doing activities. With the purpose of cramming the students with as much as information in the shortest time, teachers have to talk constantly, and giving students time to answer questions is thought to be a waste of time. Little interaction and interruption in classroom teaching is a typical phenomenon in Chinese high schools. The interaction becomes less and less as the grade become higher and higher. In addition, most Chinese students are accustomed to rote learning which means that they often rely on reciting rules or preformed answers, having seldom been trained to think critically. Zhang (2017) revealed that the higher education curriculum in China, which was heavily regulated by the state, had become one of the main obstacles preventing Chinese undergraduate students from developing independent and critical thinking, particularly in the arts, humanities and social sciences (Zhang,

2017). It is therefore not surprising to see that they do not know how to think critically and do not have the habit of critical thinking, neither in their daily life nor in academic study. If you collect the testing papers from schools in China, you can notice that the questions for reading comprehension in English exams are usually presented as single choice questions leaving students little opportunity to express their subjective opinions toward reading material in English exams. Such exams seem to be an indication for students that there is no need for them to read between the lines and think critically.

For such reasons, as college English teachers, we feel obliged to investigate to change that situation and bring students back to the more academic way of enquiry. Because college intensive reading class is the main compulsory course for non-English major students in China, it is suitable for training students' thinking ability. Coupled with the huge proportion of English reading in the assessment of students' language ability in various stages of Chinese schools, training students' thinking ability in English reading classes is an effective practice. The training of critical thinking ability on intensive reading texts in the class can also improve the reading efficiency of students in their extensive reading after class. When formed the habit of critical thinking in English intensive reading class, students would have a further understanding of the texts, and meanwhile they can transfer their critical thinking abilities to the study of other subjects and make their study more effective. What I expect is that students can shift their attention from good score to the method of thinking.

Reviewing current studies about critical thinking, such as Zhou (2015), we can see there are some methods for training critical thinking abilities based on Bloom’s Taxonomy (1956) and Ellis’s Task-Based Learning teaching (2003) and some innovative English language reading textbooks focused on cultivating students’ critical thinking abilities. However, there are few studies on teaching design and specific strategies for teaching activities for critical thinking in college intensive reading class.

1.3Framework of the thesis

The basic framework is as follows:

The first chapter is introduction. It mainly introduces the background of the research to show the necessity and urgency of the research, especially analyzes the

focus of current education, and finally determines that critical thinking is the research focus by explaining the relationship between innovative thinking and critical thinking.

The second chapter presents a literature review, which summarizes and defined the concept of critical thinking, and analyses relevant research at home and abroad as well as their respective advantages and disadvantages, and finally limits the cultivation of critical thinking in this study to several core skills, such as interpretation, analysis, and reasoning, evaluation and reflection.

The third chapter introduces the main research method of this study: action research, and explained the reasons for adopting this study method, introduces the research purpose, research object, research steps, data collection, etc., and focuses on the Teaching Trilogy applied to action research.

The fourth chapter is data analysis and findings. It analyzes each group of qualitative data and quantitative data respectively, and shows the trends and problems presented by the data through tables.

The fifth chapter is discussion, which mainly discusses the reasons for the generation of data, observes the changes of participants' critical thinking ability, and evaluates the effectiveness of the new Teaching Trilogy mode.

The sixth chapter is the conclusion, which summarizes the results of this study, points out some limitations of this study, and put forward the direction for future research.

Chapter 2 Literature Review

The definition of critical thinking in this study is given after discussing the different concepts of critical thinking from different scholars. By comparing the critical thinking teaching in China and Western, we found much would be done for China. The research on critical thinking teaching was reviewed to show the gap worth studying in this research. Tasked-based learning approach was introduced as the main teaching approach implemented in this study.

2.1 The concepts of critical thinking

The word critical derived from the two Greek roots "kricitos" and "Kriterion". "kricitos" in Greek language means "discerning judgment", and "kriterion" means "criterion". When the two roots are combined together, it means "To make the rational judgment by conscious thinking with proper criterion"(Paul & Elder, 2006, p23.). Critical thinking has various well-constructed definitions, and each of them reflects the aspect of the scholar's philosophy and instructional method for applying critical thinking to education. The numerous definitions from scholars all over the word help us draw the concept of critical thinking in this study.

2.2 Research on critical thinking teaching

To carry out research on critical thinking teaching in China, the gap of critical thinking teaching between China and western countries should be identified. As a thinking skill, critical thinking has proved its important role in problem solving, social adaptation and knowledge innovation. In the past two decades, western countries, especially the United States, have paid more and more attention to the research on the thinking ability of college students. Then, more and more research results came out, and research came from various academic fields, mainly from philosophy, pedagogy and psychology. Research in different disciplines not only promoted the integration of disciplines, but also provided necessary conditions for the generation of new theories. The importance of critical thinking in the United States is also reflected in the large quantity of doctoral dissertations, master thesis, authoritative journals and magazines, and a large number of critical thinking professional groups. According to Doctor Liuyi (2010), among the doctoral dissertations whose research object is critical thinking in recent ten years in the United States, there are around 120 PhD (Doctor of

Philosophy) dissertations and more than 60 EdD (PhD in Education) dissertations. The doctoral dissertation is an important indicator that reflects the development trend of the academic field. It not only reflects personal research interests, but also reflects the concern of the tutors on the direction of the academic field. The increase in the number of doctoral dissertations focusing on critical thinking indicates that critical thinking is an issue that has received attention in the field of academic research. In addition, from the analysis of published books, the number of books on critical thinking has also increased significantly in the past 10 years. Searching through the Library of Congress using critical thinking as a topic or key word, it was found that there are a total of 200 books related to critical thinking in the library. The library not only has teaching materials for cultivating the critical thinking skills of children of all ages over 4 years old, but also critical thinking teaching materials that combine different majors and vocational training. In addition, the United States holds an international seminar on critical thinking every year, and experts from all over the world attend the meeting to discuss the development of critical thinking education. Numerous research fruits on critical thinking can be roughly divided into three categories: defining the sub-capacity of critical thinking; constructing a measuring tool of critical thinking ability; exploring the ways and effectiveness of critical thinking training in higher education.

The sub-capacity of critical thinking is defined in the three structure models of critical thinking which have been discussed in the previous section. So in the following section, measuring tool for critical thinking ability and training in high school will be reviewed.

2.2.1 Research on Critical Thinking Teaching Abroad

As many universities and even some primary and secondary schools gradually incorporate critical thinking into their teaching plans, critical thinking has become a core skill education, and effective strategies for critical thinking training have become a key concern to research. Inquirers mainly carry out a series of researches around the question of whether and how to teach the ability of thinking. In addition to focusing on the common speculative abilities of various disciplines, many research focused on analyzing the speculative abilities of various disciplines, such as doctors and accounting. Pithers and Soden(2000) summarized the research status of the British higher education in this field, and pointed out many problems in this aspect of university teaching.

Critical thinking teaching methods emerged endlessly, including dialogue method, debate method, and conference method, etc. For example, Gan (1996) studied the case teaching method of critical thinking. Wilen and Phillips (1995) discussed the reflective and cognitive methods of critical thinking teaching. Paul (1995) re-researched the Socratic question and answer method of critical thinking teaching. Bacon C.S. studied the possibility of developing students' critical thinking through course conversations. In short, a lot of research had been conducted around the question of whether and how critical thinking can be taught.

The question of whether critical thinking can be taught is divided into two parts in the development process: First, can critical thinking skills be taught? The second is whether critical thinking disposition can be taught? In these two questions, most research focuses on whether critical thinking skills can be taught. Despite the different opinions of research, most research still agree that critical thinking skills can be trained. The key issue is how to choose the appropriate method. As for whether the critical thinking disposition can be improved through school education, the situation is significantly different. In this regard, there are more theoretical speculations, and there are very few practical studies that clearly point to critical thinking disposition, especially long-term studies in educational practice. So far, research has not been able to give a clear answer to this question based on the results of empirical research. Some research believe that since critical thinking skills can be taught and long-term training programs show that thinking skills can be changed, then to some extent, it indicates that critical thinking disposition can also be taught, too. However, the problems encountered in education are the same, how to find effective teaching methods. Therefore, research has focused on the key issue of critical thinking education---methods. Many scholars have debated whether critical thinking teaching should be separated from the specific subject content of the students. According to the relationship between the teaching and training of critical thinking and the content of the subjects learned by students, the teaching methods of critical thinking can be divided into four types: General Approach, Immersion Approach, Infusion Approach and Mixed Approach.

(1) General Approach

The so-called general method refers to the teaching of critical thinking by setting up a special critical thinking process. Its main purpose is the training of critical thinking, and it does not involve much specific subject content. The focus of the

training is on the principles and methods of critical thinking that can be applied in different scenarios. The representative who advocates this method is Ennis(1993).

(2) Immersion Approach

The methods combined with subject content mainly include Immersion Approach and Infusion Approach. The Immersion Approach and Infusion Approach refer to the combination of critical thinking teaching and students' daily subject learning content for critical thinking teaching. However, the two are ideologically different. The Immersion Approach tends to develop students' critical thinking imperceptibly through subject knowledge teaching. This teaching method does not explicitly teach the general principles of critical thinking. It tends to awaken students' critical thinking through daily subject teaching. The Infusion Approach focuses on encouraging critical thinking when teaching daily subject content, and teaching critical thinking by clearly explaining the general principles of critical thinking disposition and abilities. “Glaser favors the Infusion Approach, and McPeek favors the Immersion Approach” (Fang, 2013, p.26).

(3) Mixed Approach

The Mixed Approach is a combination of the General Approach and the latter two methods. Its typical form is to teach critical thinking for a period of time, and then combine the training of critical thinking skills with the teaching for students' daily subject. On the whole, due to the new development of the social, cultural and historical theory of critical thinking since the 1990s, the research on critical thinking has been impacted by the tendency of postmodernist psychology. And as the research are paying more and more attention to the essential role of disposition of critical thinking in the process of developing critical thinking, more and more research adopt this Mixed Approach, including Sternberg(Stenberg, 1998).

2.2.2 Research on Critical Thinking Teaching in China

The trending of the research on critical thinking teaching in China

Critical thinking research abroad emerged in the field of foreign language or second language education since the 1990s.Both Modern Language Journal (1997) and TESOL Quarterly (1998) have lots of articles with Critical thinking as their topic. Compared with the development of critical thinking abroad, China started late. China only began to research and explore into it in the late 1980s, so China's research is still in the phase of exploration and development. Although Zhu and Lin pointed out as early as 1986 that "the criticality of thinking is an extremely important quality of

thinking, so it is very important to carry out critical research on thinking" (Zhu &Lin, 1986), the specific research has only attracted the attention of domestic research in the near ten years. Although China's pedagogy, psychology, second language acquisition and other fields realized the importance of critical thinking early on, systematic research and educational practice activities are still very weak (Luo & Yang, 2001). This situation is incompatible with social development and progress. With the promulgation of the "Outline of the National Medium and Long-term Education Reform and Development Plan (2010-2020)" in 2010, cultivating innovative talents and carrying out innovative education have gradually been put on the agenda. Since then, the cultivation of innovative thinking and critical thinking has received great attention from the Chinese academic community.

This article uses CNKI full-text database as the search source to search all domestic master's thesis, doctoral dissertations and CSSCI (Chinese Social Sciences Citation Index) journal articles on critical thinking research. There are two reasons for searching these three kinds of research: one is to grasp the research status of critical thinking in China. Master's thesis and doctoral dissertations can show a clear context and complete structure from theory to practice and to conclusions, which can provide effective reference for subsequent research.Second, in order to ensure the quality of references, only CSSCI journals are searched. Using "critical thinking" as the key word, a search on CNKI will result in 2171 search records, and these articles are of varying quality, and only a few articles have reference value. If they are all included in the scope of research, a lot of time and energy will be wasted. In view of the high quality of CSSCI journal articles and the authoritativeness in China’s academic circles, this article conducted a search in CSSCI journals with the search terms "journal" and "title", and the search term "critical thinking". The master's thesis, doctoral dissertations and CSSCI journals with "critical thinking" as the key word basically show a trend of increasing year by year, especially from 2011 to 2020. One of the important reasons is the promulgation of the "Outline of the National Medium and Long-term Education Reform and Development Plan (2010-2020)", which has greatly promoted China Scholars' research in this field. From the distribution of disciplines, there are 27 disciplines involved, mainly in the fields of philosophy, psychology, education, linguistics and so on. It can be seen that critical thinking can be used in the teaching of various fields and disciplines. It needs more scholars in different fields to conduct continuous research on it.

The content of critical thinking research

The content of critical thinking research mainly covers three parts: the introduction of critical thinking theory, the teaching practice of critical thinking, and the investigation of critical thinking status and the research of measuring instruments. However there was little on practical implementation in foreign language teaching.

(1) Introduction to critical thinking theory

Since the study of critical thinking gained attention in China in the 1980s, scholars have not only summarized foreign research, but also discussed its connotation and significance in light of the national conditions (Zhang, 1986). These studies not only broadened the horizons of domestic research, but also lay the foundation for follow-up empirical research. Some scholars pointed out: Critical thinking refers to the personal judgment of the authenticity, accuracy, nature and value of what is learned. It can be divided into two major elements: spirit and intelligence (Li, 1996); some scholars point out critical thinking has the characteristics of reflection, science, originality, and practice (Xu, 2006).As for the critical thinking disposition and critical thinking skills, some scholars have also given their own views (Qian, 2007). Wu and others also analyzed the connotation of critical thinking and the complementarily of critical thinking with logic education; some scholars also conducted research on the critical thinking of college students (Liu, 2009). It can be seen that, the relationship between critical thinking and logic, pedagogy, medical nursing, foreign language teaching, as well as the influencing factors of critical thinking and its training methods have gradually received attention from Chinese scholars.At this phase, it is mainly to introduce related foreign theories, and there are a few speculative articles that combine foreign theories with Chinese reality. Later, some scholars began to focus on foreign research of critical thinking research and promoted critical thinking theories. Some scholars put forward their own theories after learning from foreign research (Wen, 2009). These research results laid foundation for critical thinking practice in China.

(2) Research on Critical Thinking Teaching Practice

While the number of review articles has increased, related empirical studies have also grown rapidly. While discussing critical thinking, scholars have begun to carry out substantive research on its integration with various disciplines. Scholars in educational psychology realized the importance and significance of critical thinking

and began to research on the relationship between critical thinking and other disciplines. Since then, there have been researches on the role of critical thinking in logic, pedagogy, psychology, foreign language teaching, medical nursing and other fields, as well as specific training methods. (Yue, 2000; Zhong, 2002; Lu, 2007; Han, 2009; Li, 2010; Sun, 2011; Wang, 2011; Zhang, 2015; Ma,2017; Hou, 2019; Lin,2021)

Among them, the teaching research on the thinking ability of foreign language college students is mainly distributed in several aspects: First, in the teaching of reading, it is found that methods such as critical reading and discussion teaching can help improve students' critical thinking ability; Second, in the teaching of writing, some specific writing teaching modes, such as cooperative writing mode supported by meta-cognitive strategies, reading and writing combined mode, literature reading and evaluation teaching mode, all provide positive effect to cultivate critical thinking; Third, there are also scholars conducting research on speech, oral language, debate, and translation. They analyzed college students' English speech, oral English and English composition, used oral language training activities such as debate to develop critical thinking skills. The relevant research conducted by these scholars in the field of foreign language teaching has achieved certain positive results.

Critical thinking research conducted in the field of foreign language teaching mainly focuses on English reading, English writing, English speech, English debate, English translation courses, and these courses are designed for English majors, so the objects of these studies are English major students.There is very little research on the critical thinking of non-English majors, which requires scholars' attention. In most of colleges and universities in China, college English courses for non-English majors take the longest time and last for the longest period among all university course. It usually takes four semesters and a total of two years. It has 4 credits per semester, a total of 16 credits. It is the university course with the most credits. There are 4 teaching hours a week, so it is the course with the largest quantity of teaching hours in the college curriculum. For these non-English major students, college English teachers should also consciously cultivate students' critical thinking in their teaching process, because the cultivation of talents requires the joint efforts of all disciplines, and the formation of thinking habits depends on the integrated effect of all disciplines. Therefore, this study will take non-English major college students as research target. The college English courses for non-English major students are mainly consisted of two types of courses: one is English intensive reading course, and the other is English

listening and speaking course. And this study will take English intensive reading course as the research environment.

2.2.3 The Characteristics of Critical Thinking in the Field of Foreign Language Teaching

Comparing the critical thinking teaching in China and Western above, some characteristics of critical thinking teaching in China, especially in the field of foreign language teaching had emerged. The following aspects of Chinese critical thinking teaching were the main focus of this study. With those objectives, a new teaching mode was designed to test its effect in training students' critical thinking abilities.

(1) There are too many theoretical researches, but a few empirical researches.

Although critical thinking research has shown a trend of rapid development in recent years, most of them are still in the stage of theoretical exploration and construction, and are lack of sufficient empirical research. Compared with foreign systematic, scientific, and comprehensive critical thinking research systems, domestic research is relatively deficient, especially the research on critical thinking training methods, teaching materials, and curriculum settings. Those are urgently needed to be improved. In contrast, the research on critical thinking in Western countries led by the United States has been very systematic, which reflected in the following aspects: the early concept definition, connotation and nature of the discussion, the detailed division of critical thinking dimensions, the development of measurement tools, the study of its validity and reliability, the influencing factors and cultivation methods of critical thinking, and the relationship between critical thinking and various disciplines. However, Chinese scholars need to learn from this system and to carry out more localized research work that suits Chinese conditions.

(2) There are many types of courses involved and a few types of research objects

At present, searching through CNKI found that in foreign language and education core journals, there are critical thinking studies in English reading teaching, writing teaching, translation teaching, etc., but the research objects are almost all English major student. In China's comprehensive universities, English majors account for only a small part of the students, while all the remaining students are non-English majors. How to improve the critical thinking ability of those non-English majors through the two-year college English intensive course is very necessary and urgent. Once they have mastered critical thinking skills and formed the habit of critical

thinking, they can not only apply this skill to the college English intensive reading course, but also transfer this skill and habit to the study of other courses. , So as to have a more profound and scientific understanding of the knowledge of each subject. Therefore, the research object of this article is non-English major college students.

(3) There are many constructions of teaching modes, but a few specific practical operations

Most critical thinking strategy research stays at the stage of constructing the teaching mode, and specific practical operations are rare. Many documents have mentioned that English teaching needs to pay attention to critical thinking teaching, but there are few successful cases and statistical data support for reference on how to operate. At the same time, currently, the empirical studies in this field involve only a limited number of subjects, with a small sample size. The effect of these studies remains to be confirmed by a large number of empirical studies. An important reason for this situation is that critical thinking ability is a difficult concept to measure, and how to measure it mainly depends on the measuring tool and research method. To ensure the scientific nature of empirical research, it is necessary to clarify the relevant concepts of critical thinking, so as to form an operational theoretical framework. The research on the measurement and evaluation tools of critical thinking in our country is in its infancy. The conditions for large-scale empirical research are not yet available in a short period of time. However, if teachers focus on cultivating students' critical thinking in daily teaching, they can try using a fuzzy evaluation system that combines multiple evaluation methods. This article explores and studies in this aspect.

(4) Cultural factors and teachers' own critical thinking skills have been neglected

English learners in our country are in a non-native language learning environment. The implementation of critical thinking teaching in this environment will be affected by cultural differences. However, the current domestic research on the cultivation of critical thinking lacks the exploration of cultural factors. The main cramming-style teaching model causes students to become accustomed to passive learning and lack the enthusiasm for thinking and asking questions.According to Tian (2011) and Zhou (2015), Chinese higher education students demonstrate a lack of critical thinking abilities. Although students are given extensive reading as assignments after class and spend significant amounts of time dealing with intensive reading texts in class, they

don’t make satisfactory progress as expected. In intensive reading classes, students get used to react only when they are asked questions by the teacher; otherwise, many students are prone to passively receive the teachers’ analysis of the text. This habit is formed in their high school years, when teachers are given limited time in class to convey a large quantity of information to students. This pedagogy is enforced by circumstances beyond teachers’ control. In addition, most Chinese students are accustomed to rote learning which means that they often rely on reciting rules or preformed answers, having seldom been trained to think critically. It is therefore not surprising to see that they do not know how to think critically and do not have the habit of critical thinking, neither in their daily life nor in academic study. If you collect the testing papers from schools in China, you can notice that the questions for reading comprehension in English exams are usually presented as single choice questions leaving students little opportunity to express their subjective opinions toward reading material in English exams. Such exams seem to be an indication for students that there is no need for them to read between the lines and think critically. Analyzing the formation process of students' thinking habits under a specific cultural background is vital to target critical thinking training in teaching. In addition, in CNKI, there are more studies on students' critical thinking, while there are fewer studies on teachers' own critical thinking ability. In the process of training students' critical thinking, the critical thinking ability of teachers is a key factor affecting the teaching effect. The improvement of teachers' own critical thinking ability should be included in the research scope.

In summary, critical thinking research plays an important role in improving students' rational thinking ability and innovation ability, so more and more foreign language academic research begin to pay attention to critical thinking. Future research should focus on the teaching of critical thinking in more courses, realize the effective combination of critical thinking training and English teaching, improve teachers’ critical thinking ability and explore reasonable teaching models based on cultural background and course characteristics. Critical thinking originated in Western culture, and it is not easy to transplant it into the Chinese learning environment. Simple training in a short period of time is unlikely to be effective. For students to have the ability to think critically and form critical thinking habits, they need to be trained in a long-term system. The focus of this study are to learn from advanced foreign research methods, strengthen the empirical research of critical thinking, combine critical

thinking research China's educational and cultural traditions, and explore the method to cultivate critical thinking which is suitable for China's national conditions and teaching conditions.

2.3 Critical Thinking Model in China

Chinese scholars formed several critical thinking model from certain perspectives based on Western models including the single dimensional structure model of Ennis(1993), the double dimensional structure model in the Delphi Report(1990), and the ternary model of Paul and Elder (2010).The typical models among Chinese scholars are Lin Chongde's Triangular pyramid model (Lin, 2006) and Wen Qiufang's hierarchical model (Wen, 2009).

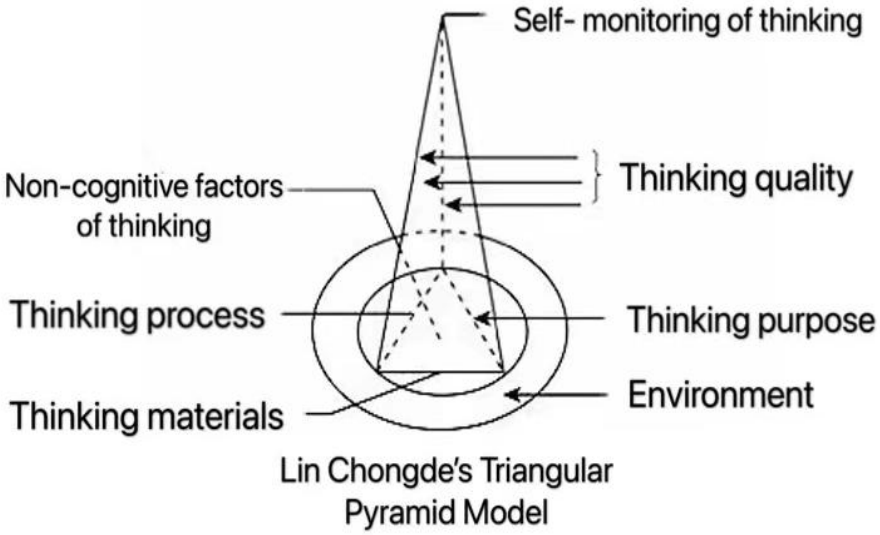
(1) Lin Chongde's Triangular pyramid Model

Lin's triangular pyramid model shows that intelligence is one's thinking skills needed to achieve a certain purpose, or to identify, analyze and solve problems when they are in a specific material environment and social, historical and cultural environment. The process is under the control and guidance of themselves, and it is under the influence of non-cognitive factors, too. He believes that a thinking model contains a purpose, a process, and a result or material. The components of the entire model are monitored and regulated by self-awareness, and reflect various thinking qualities. Thinking model is a system of interaction between intellectual factors and non-intellectual factors. The thinking model is realized in practical activities. It depends on a series of objective conditions and gradually develops through internalization and the internal dynamics of the model. It can be seen from this that if we simply analyze the specific components of the thinking model, the thinking model can be regarded as static. But in terms of the interrelationship of the internal components of the thinking model, and the development of the thinking model, this model is dynamic. Lin believes that the thinking model is the unity of this static and dynamic structure (Lin, 2006).

Lin Chongde's triangular pyramid model contains six factors: thinking purpose, thinking process, thinking materials, self-monitoring of thinking, thinking quality, cognitive and non-cognitive factors of thinking. These six factors have many similarities with the ternary model proposed by Paul and Elder. For example, in the ternary model, there are elements of thinking purpose, thinking process and thinking material, too. The thinking quality in the triangular pyramid model is similar to the

intellectual standards in the ternary model, and the non-cognitive factors in the triangular pyramid model are similar to the intellectual traits in the ternary model(Wen, 2009).One feature of this model is the unification of static and dynamic. The advantage is that it puts self-monitoring on top which has the ability to manage the overall situation. In other words, this ability is a meta-thinking ability, which should be placed on a level above other factors. Compared with foreign single-dimensional model, two-dimensional model, and ternary model, it has undergone certain changes, especially emphasizing the importance of self-regulation and self-reflection. Human self-monitoring ability not only plans, inspects, regulates, manages and monitors cognitive ability, but also plays the same role to non-cognitive factors. Although Lin puts self-monitoring ability at the top in the triangular pyramid model, he did not emphasize the relationship between this ability and the following abilities. After comprehensively borrowing three foreign models and Lin Chongde's triangular pyramid model, Wen further proposed a hierarchical model, which made China's critical thinking model one step forward.

Table2- 1　Lin Chongde's Triangular Pyramid Model (Lin, 2006)



(2) Wen Qiufang's hierarchical model

Wen proposed a hierarchical model on the basis of the two-dimensional model, the ternary model and the triangular pyramid model. She basically adopted the framework of the two-dimensional model, and at the same time incorporated the intellectual standards in the ternary model and the self-regulation effect of the triangular pyramid model into the theoretical framework of the hierarchical model.

The hierarchical model advocates the refinement of critical thinking ability into two levels: meta-critical thinking competence and critical thinking competence. The first level of meta-critical thinking competence refers to the skills of planning, inspection, adjustment and evaluation of critical thinking; the second level of critical thinking competence includes skills and standards related to cognition, as well as emotional traits related to the critical thinking. The second-level competence is managed and monitored by the first-level competence. The purpose of placing the two kinds of critical thinking competence in the upper-lower relationship is to highlight the dominant role of the learner's subjective initiative in the critical thinking competence. The basic framework of the hierarchical model is borrowed from the two-dimensional model framework, but the intellectual standards in the ternary model are added to its cognitive dimension.

Wen defined three core skills in the hierarchical model: analytical skills, reasoning skills and evaluation skills. Analytical skills include sub-skills such as classification, identification, comparison, clarification, differentiation, and interpretation. Reasoning skills includes sub-skills such as questioning, hypothesis, inference, elaboration, and argumentation. Evaluation skills refer to the skills, such as assumptions, argumentation processes, conclusions, etc. This model condenses the 10 criteria in the ternary model into 5 criteria, including clarity, relevance, logic, depth and flexibility. Clarity refers to clear and precise thinking. Relevance means that the content of the critical thinking is closely related to the subject, the details are appropriate, and the priority is clear. Logic means that the reasoning should be clear, well-founded and persuasive. Profoundness refers to the breadth and depth of critical thinking activities. Flexibility refers to the ability to change perspectives and think about problems proficiently and appropriately.

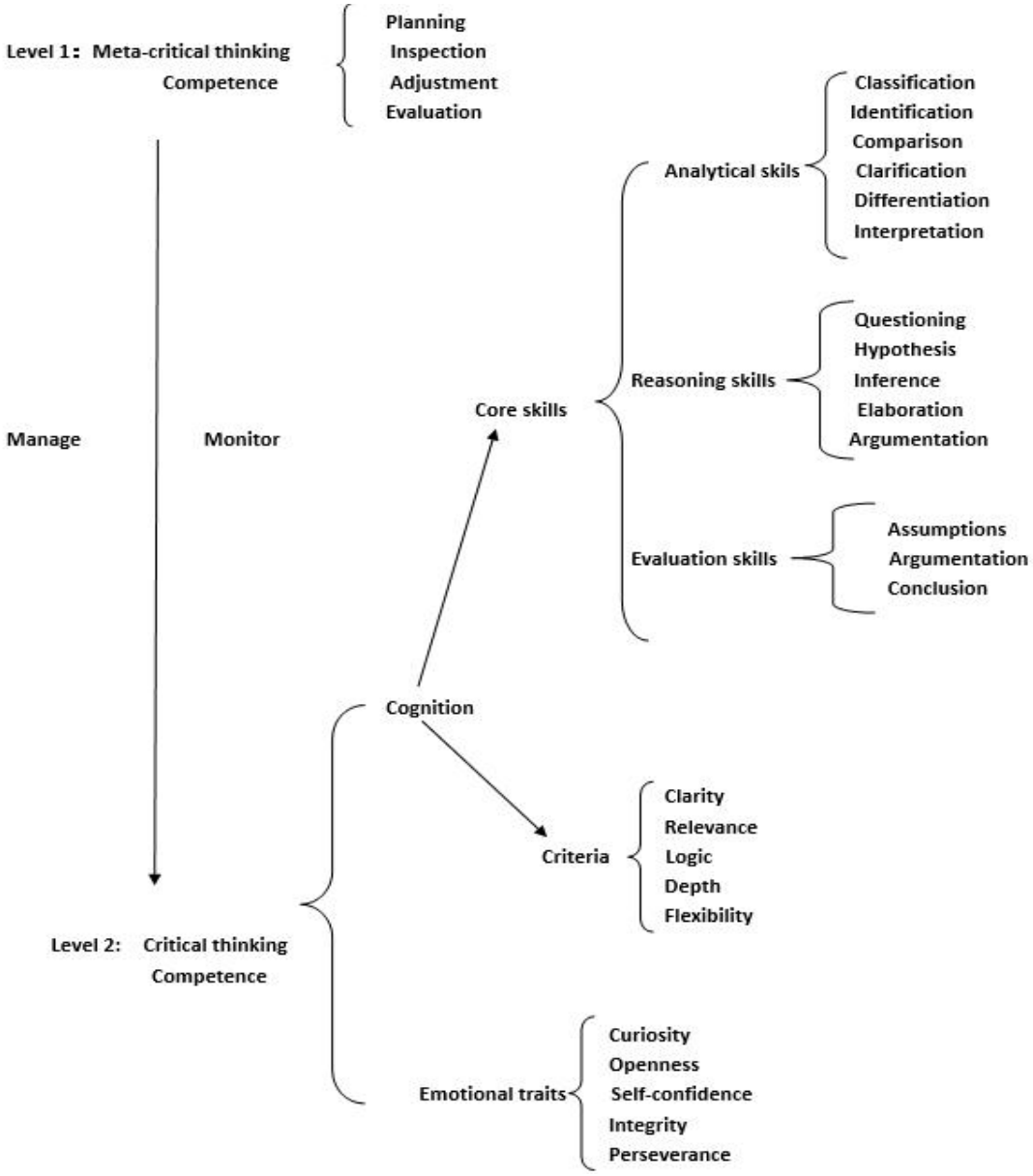
The emotional dimension in the hierarchical model can be summarized as five emotional traits: curiosity, openness, self-confidence, integrity, and perseverance. Curiosity means that the critical thinker is interested in new things, likes to ask the roots, is good at asking new questions about common phenomena, and has a strong desire to learn new knowledge and new skills. Openness means that the thinker is broad-minded, and he or she is able to respect and tolerate different opinions, and is

willing to correct their inappropriate views. Confidence means that the thinker is confident in his analysis, reasoning, and evaluation abilities, and he dares to challenge authority. Integrity means that the starting point of the speculator is to pursue truth and justice, not personal self-interest. Perseverance means that the thinker has strong resilience, and is not afraid of setbacks.

The hierarchical model is a theoretical framework for the Wen's team to build the measuring tool of critical thinking ability for college students in foreign languages. They compiled a corresponding measuring tool on this basis, and used the measuring tool to conduct empirical research. In November 2009, the test was conducted among 2,770 students from 12 colleges and universities across China. Through testing, the effectiveness of the measuring tool has been confirmed. After this study, Wen's team held a subject consultation meeting and revised the original measuring tool (Wen, 2013).

Since the effectiveness of Wen's model had been tested and it had the detailed and clear division, it was more suitable for the daily teaching of each sub-skills of critical thinking in this study. When design the teaching plan, several sub-skills were considered as the core training skill for each teaching period.

Table2- 2 Wen Qiufang's Hierachical Model (Wang, 2021)



2.4 The training method of critical thinking

Liufrom Beijing Normal University pointed out the importance of critical thinking in 1996, and discussed its significance in education and teaching methods (Liu, 1996; Liu, 2000). Chinese scholars mainly use the foreign critical thinking training methods for research. They believe that there are several ways to cultivate students' critical thinking: courses that specialize in teaching critical thinking, critical thinking courses that combine disciplines, and courses that indirectly cultivate critical thinking.

(1) **To set up a special critical thinking course for critical thinking training.** This training refers to the process by which students acquire critical thinking through specialized critical thinking courses. The content includes logic, speculation, and scientific methodology. Some universities in China have set similar courses, such as Wuhan University, Shantou University, and Huazhong University of Science and Technology. Among them, the critical thinking course conducted by Dr. Dong at Huazhong University of Science and Technology is the largest. Although specialized curriculum settings help to increase the systemic nature of critical thinking training, for universities, it needs specialized teachers to do this work, and it needs to be supported by additional educational resources; for students, the additional course may increase the burden on students. Therefore, some research believe that this specialized critical thinking course may lead to the fragmentation of critical thinking skills, because thinking ability cannot exist independently of the content. On the contrary, it is a learning method of the content. It is believed that the skills taught individually can only help students cope with tests designed specifically for these skills, and it is difficult for the students to transfer those skills into other disciplines. However, once these skills are combined with a certain discipline, they can become effective tools for students to solve problems.

(2) The cultivation of critical thinking combined with subject teaching. This method is the same as normal classroom teaching to develop students' critical thinking. It is the most common method for critical thinking training in schools, and it is applicable to all different courses. Specifically, this method refers to the process of enabling students to acquire critical thinking through specific subject learning practices and collaborative discussions through certain teaching methods. The critical thinking ability of students comes from their comprehension and induction of knowledge and the process of knowledge acquisition. Teaching methods have played an important role in this course, directly affecting students' understanding and acceptance of the critical thinking skills and spirit contained in the specific subject knowledge they have learned. At the same time, the role of teachers is also very essential, directly determining the implementation of teaching methods and teaching effects. This article mainly studies this kind of training method combined with subject content, hoping to improve students' critical thinking ability through specific teaching methods and teaching modes, so as to promote students' deeper understanding of

reading content. At the same time, I hope that after improving their critical thinking skills, students can form the habit of critical thinking and apply this ability and habit to other courses in order to understand the world more scientifically and dialectically.

(3)To promote students' critical thinking by developing indirect courses, such as seminars, salons, club activities, etc. Compared with the first two methods, this method is usually indirect and implicit learning. Due to the flexibility and diversity of this training mode, it is difficult to evaluate the effectiveness of this method, and this kind of research in China is rare until now.

To sum up, despite the large number of research in China, there is a lack of operational and systematic empirical research that combines critical thinking training and foreign language teaching in non-English major. This study combines the two-dimensional model and the hierarchical model, and defines critical thinking skills as three core skills: analytical skills, reasoning skills, and evaluation skills. In view of the fact that this study is based on the English intensive reading course of college English, this study will involve five skills—interpretation, analysis, reasoning, evaluation and self-reflection. Interpretation skills include the skills of statement, classification, identification, comparison, clarification, and distinction; Reasoning skills include skills such as questioning, hypothesis, inference, elaboration, and argumentation; Evaluation skills refer to the skills of judging assumptions, argumentation processes, conclusions, etc. ; Self-reflection skills refer to self-assessment and self-correction skills. In view of these skills, when designing the teaching plan, we will design corresponding tasks to cultivate and exercise these skills of students.

2.5 Measuring tools for assessing critical thinking ability

The development of measuring tools for college students' thinking ability in western countries began in the 1980s. It has a history of nearly 30 years and has accumulated a wealth of experience. There are nearly 30 kinds of thinking ability measuring tools reported in foreign literature. For example, the American Delphi team has developed two measuring tools: California Critical Thinking Skills Test (CCTST) and California Critical Thinking Disposition Inventory (CCTDI). Both of those two tools have been tested for their validity and reliability for four years. The European largest appraisal company—Cambridge Appraisal Group developed a measuring tool

named Cambridge Thinking Skills Assessment (CTSA). It has been trialed at Cambridge University since 2001, and the use of it has increased year by year. In November 2007, 27 of the 29 colleges at the University of Cambridge had adopted it as part of their admission test. The following table mainly introduces seven kinds of measuring tools and their specific dimensional information.

2.5.1.1 Types of measuring tools and their specific information

Table2- 3 Measuring Tools for Critical Thinking Ability (Tingting Wang, 2022)

Measuring Tools for Critical Thinking Ability

	Acronym	Full name
1	CCTDI	California Critical Thinking Disposition Inventory
2	CCTST	California Critical Thinking Skills Test
3	WGCTA	Watson-Glaser Critical Thinking Appraisal
4	Cornell CTT: Level Z	Cornell Critical Thinking Test: Level Z
5	TSA	Thinking Skills Assessment (Cambridge)
6	ICAT-CTET	International Centre of Assessment & Testing ---Critical Thinking Essay Test
7	EWCTET	Ennis-Weir Critical Thinking Essay Test

The seven types of measuring tools above were all developed by Americans and British, most of them were first introduced during the 1980s to the 1990s. Although Cambridge University's thinking skill assessment was first published in the 21st century, its research and development began in the mid-1980s. It can be inferred that the cultivation of thinking ability has become a concern of higher education in the United States and the United Kingdom as early as the 1980s.The objects of measuring tool evaluation are generally college students and senior middle school students. From the perspective of test question types, selective objective questions are the main form. In terms of the types of measuring tools, except for CCTDI, which measures personality tendency, all others measure thinking skills. See the table below for specific information.

Table2- 4 Types of Measuring Tools for Critical Thinking (Tingting Wang, 2022)

Measuring Tool	Author	Date	Measuring Objects	Competencies measurement	Type of Test questions
CCTDI	Peter Facione N.C. Facione	1992	College students and senior middle school students	7 qualities:truth-seeking, open-mindedness, analytical tendencies, systematic tendencies, critical thinking self-confidence, inquisitiveness, and cognitive maturity	Likert Scale (Objective questions)
CCTST	Peter Facione	1990 1992 2000	College students and senior middle school students	Overall Reasoning Skills, Analysis, Interpretation, Evaluation, Explanation, Inference, Deduction, Induction and Numeracy.	Multiple choice (Objective questions)
WGCTA	Goodwin Watson Edward M. Glaser	1980 1984	Students above Year 9 and adults	Draw conclusions. Assess strong and weak arguments. Recognise assumptions. Evaluate arguments.	Reading and multiple choice (Objective questions)
CCTT-Z	Robert H. Ennis Jason Millman	1985 2005	Adults, college students and senior middle school students	Induction, Deduction, Credibility, Identification of Assumptions, Semantics, Definition, Prediction in Planning Experiments	Multiple choice (Objective questions)
TSA	Cambridge University	2003	College students	Problem solving and speculative skills: summarize conclusions, make inferences, identify hypotheses, evaluate the impact of relevant information on arguments, identify inference errors, match similar reasoning, and apply potential rules	Multiple choice (Objective questions)
ICAT-CTET	Richard Paul	1996	College students	Analysis and evaluation: argument, purpose, information, author's opinion, hypothesis, inference, and conclusion	Short essay analysis and evaluation (Subjective questions)
EWCTET	Robert H. Ennis Eric Weir	1985	College students and middle school students	Grasp the main points, understand the reasons and assumptions, state the main points, make reasonable inferences, understand other possibilities, respond appropriately to or avoid false reasoning and arguments	Reading and writing (Subjective questions)

From the above table, we can know that these tests for logical thinking skills were all focused on analysis, reasoning, and evaluation skills. Thinking activities were dynamic, continuous, and negatively complex psychological process. Thinking skills such as analysis, reasoning, and evaluation were related to a certain degree, and they

were interdependent and used interchangeably in the thinking process. Therefore, thinking activities were not isolated and simple linear processes. Without one of these skills, other skills cannot be effectively used.

As we discussed in 2.4, the structure of critical thinking had three main frameworks which we can consider as its theoretical framework. And those measuring contents in the above table can be considered as its operational framework. Comparing the two types of framework, it was not difficult to notice that, the two do not go with each other. As far as the theoretical framework was concerned, critical thinking skills were defined as sub-skills, such as analysis, reasoning and evaluation; however, the operational framework was not based on these sub-skills, but the types of skills, or types of tasks. For example, objective measuring tools include identifying hypotheses, generalizing conclusions, applying potential rules, matching similar arguments, identifying reasoning errors, evaluating arguments, and so on. While, subjective measures included reading and evaluation or writing tasks. Why not set sub-skills as test contents? The inventor of the measuring tools explained in this way: thinking was a very complex high-level cognitive process. To solve a problem or complete a task requires the coordinated operation of multiple critical thinking skills, and it was difficult to remove or separate a single skill from the cognitive process. Therefore, the construction of measuring tools can only adopt this operational framework (Wang & Wen, 2011).

2.6 Teaching critical reading

The concept of critical reading first appeared in the 1970s (Fowler, 1979). In recent years, it had been involved in many teaching fields, such as Applied Linguistics and pedagogy. Many scholars had also shifted their research perspective to teaching critical reading inversion. From theoretical to empirical research, the research on critical reading had formed a relatively comprehensive and complete system. And the teaching strategies of critical reading had also made great progress from the connotation of critical reading to real practice of critical reading.

Scholars had systematically studied the concept and implementation strategies of critical reading. In 1979, English linguists Fowler, Kress and others (1979) published the book Language and Control, which first mentioned the concept of "critical linguistics" and "critical discourse analysis method". Teaching critical reading had gained a theoretical basis in linguistics. Wallace (2003) believed that "criticism" was

the freedom and liberation of thought, did not stick to a certain point of view, and advocated diversified ways of thinking. Wallace (2003) also pointed out that in the process of reading; it is meaningless to only understand the superficial meaning of the text. More importantly, it was to guide readers to dig deep into the meaning hidden behind the text and express their own opinions on the social views expressed by it. Pirozzi (2003) had greatly promoted the study of critical reading. He had provided many operational methods and strategies for teachers to carry out critical reading teaching, and has designed critical reading exercises for learners, which can train students' critical reading ability in a targeted way. Kato (2011) paid attention to the combination of theory and practice, and put forward a series of step-by-step critical reading skills for teachers and students, which has practical guiding significance for teaching critical reading.

Since the late 20th century, Chinese scholars had paid attention to the research of critical reading, mainly focusing on the concept, characteristics and implementation strategies of critical reading. Some also distinguished critical reading from ordinary reading, mostly at the theoretical level. Li (2002) believed that "in foreign language teaching, especially in reading teaching, teachers should let students understand that what is printed on books is not necessarily the truth. The articles we read were the author's views and required us to constantly ask questions so as to improve students' critical reading ability and cultivate critical thinking ability". Liu (2010) had further integrated the connotation and significance of critical reading on the basis of previous studies. In the process of critical reading, readers should use the thinking mode of analysis, speculation and evaluation, and give constructive reference suggestions on how to implement critical reading strategies. Tang (2009) believed that "students' logical reasoning ability can be trained in critical reading teaching, Based on the characteristics of critical reading and the thinking characteristics of critical readers, It was pointed out that English teachers can make full use of the advantages of English reading classes and teaching materials to carryout training from the following four aspects: Use newspaper articles to guide questioning, use advertising genres to experience publicity, focus on emotional terms in critical articles, and use film reviews to cultivate logical reasoning, so as to stimulate students' interest in learning, cultivate and improve students' ability to criticize and appreciate texts, and give full play to students' positive role as meaning constructors in the reading process "(Tang, 2009). Zhang and Xie (2012) discussed that constructivism learning theory and

critical discourse analysis theory were the theoretical basis for critical reading, providing theoretical basis for critical reading research, proposing relevant measures on how to implement critical reading, turning the research object to the public readers, and proposing to maintain a high degree of critical awareness of the text. Ouyang and Xiong (2013) pointed out: "The three-dimensional critical reading model based on critical discourse analysis believes that criticism should be carried out from three perspectives: critical reading perspective based on the author's concept, critical reading perspective based on dialogism, and critical reading perspective based on genre intertextuality". Run and Wu (2016) "proposed a new and operable critical reading mode based on the ideal model of critical discussion in pragmatic debate. This model simplified critical reading activities into three steps: identification demonstration, analysis and reconstruction demonstration and evaluation demonstration". This mode was helpful for teachers to carry out critical reading training for students in class, and also helped to improve students' autonomy in critical reading.

From this, we can see that the research on critical reading in China mainly focused on the concept and implementation strategy of critical reading. With the emphasis on theoretical discussion and relatively few empirical researches, this study focused on empirical research to prove that the implementation of critical reading in senior high school English reading teaching can cultivate students' critical thinking ability and improve students' reading performance. What I intended to emphasis is in the process of teaching, teachers should create a relaxed and harmonious learning atmosphere, select appropriate reading materials, pay attention to the cultivation of students' problem awareness, and guide students to dare to question, so that students can form good critical reading habits, and then improve critical thinking ability. Since previous research have offered a large quantity of theories and disciplines for teaching critical thinking reading, I am working on a new feasible teaching mode with more practical strategies for teachers in teaching critical reading.

2.7 Task-based Approach

In foreign language teaching, Task-based approach was known as for the communication of foreign languages (Willis, 1996); however, in this study, it had a different usage with a different definition.

2.7.1 Definition of task

Breen (1987) believes that the "task" is, assumed to refer to a range of work

plans which have the overall purpose of facilitating language learning from the simple and brief exercise type, to more complex and lengthy activities such as group problem-solving or simulations and decision making. Nunan (1989) holds the opinion that "task" is a piece of classroom work which involves learners in problem-solving by comprehending, manipulation, producing or interacting in the target language while their attention is principally focused on meaning rather than form. The task should also have a sense of completeness, being able to stand alone as a communicative act in its own right with a beginning, a body, and an end. Willis (1996) insists that "tasks" are always activities where the target language is used by the learner for a communicative purpose (goal) in order to achieve an outcome, which means learners can solve a real life problem by communicating with the foreign language. However, Willis didn't mention that the process is more important than the final outcome. According to Prabhu (1987), "task" is regarded as "an activity which required learners to arrive at an outcome from given information through some process of thought, and which allowed teachers to control and regulate that process." Richards and Weber (1986) consider from pedagogical perspective says that "A task is an activity or action which is carried out as the result of processing or understanding language" (i.e. as a response) (Richards, 1985).

From the above definitions, we can easily discover at least three basic features of one task: 1) to obtain an objective; 2) meaning is stressed; 3) communication-oriented and needing the language to be used. Most linguists agree that a task is the activity with definite aim in teaching process. Communicative task is a kind of class activity involving learners' comprehension, and they communicate through their formerly learned language. The connotation of task approach refers to designing tasks in teaching activities, asking students to acquire language knowledge by completing tasks, thus cultivating students' communicative competence. Specific tasks are as the studying motivation, while the process of finishing tasks as learning process. Tasks are communication-aimed activities that learners carrying out by means of target language and to solve some affairs which usually has a non-linguistic outcome. So it depends on whether there is a result that can judge a task is successful or not.

In my study, the definition of "task" is somehow different with that. Although Task- based approach was first designed for the communication of foreign languages, in my study, it stands for a single question or a series of questions expected to be answered by the students with the instructions from the teacher and help from

classmates. It do have an objective, however, the ultimate objective is not to obtain the communicative skill of target languages, but to have a further understanding of the reading materials by working out the questions in tasks through the process of critical thinking. It is problem solving, but not in the level of speaking, instead, it is in the level of critical thinking which also requires stressed meaning. It is not communication-oriented, but it takes communication as an essential skill. To complete the tasks, students have to communicate with the reading materials, which means that they to ask questions from the reading materials and to answer the questions by themselves. Students also have to communicate with the writer, their group members, and classmates from other groups, the teacher and even themselves.As communication is required in the process, it can also improve students' speaking level of target language.

2.7.2 Types of tasks

Different experts have various opinions on types of tasks. Here are the classifications according to Willis. Willis (1996) listed six types of tasks:

1) Listing

Such a task can be conducted on a whole class scale or group or pair work. For example, discuss a certain topic freely, then list what students have already known.

2) Ordering and sorting

This is to order an activity or matter according to logic or time-space order.

3) Comparing

In such a task, usually affairs or people of the same nature are compared, and then find what are in common and what are different.

4) Problem solving

This involves in logical analysis, inference, and figuring, etc. Take the topic of shopping for example, when teacher asks students to shop on the computer and the computers provide the price of each item, students will have to analyze and figure, then finally buy their goods within their budgets.

5) Sharing personal experience

This is to find others' views on a movie, a TV program through discussion, talk about one's hobby and find who has the same interests. About out-of-class activities, they can find out what makes one feel terrible, what makes one the most joyful, angry, and nervous, etc. Then group work, summarize the topics and exchange information

with other members.

6) Creative tasks

Such tasks need to be accomplished by the team work, not only involves in school life, but may extend to activities out of campus.

Pica, Kanagy and Falodun (Richards and Rodgers, 1986) listed five types according to the way that students interact:

1) Jigsaw tasks

This requires the members of the group each takes on one part of the whole task, and partners need to cooperate to make a whole.

2) Information-gap tasks (barrier game)

This is for two students to finish. Each holds the information that the other doesn't know. And then, they get what they don't know by exchanging information with target language.

3) Problem-solving tasks

Assign students a task and some related information. In these tasks, they have to solve the problem through discussion.

4) Decision-making tasks

Give students a series of options, then provide a unanimous opinion through discussion, eventually make a decision.

5) Opinion exchange tasks

This allows students to express different thoughts and different views, and also get to know others' thoughts.

The above are two different sorting of tasks. And in my study, all of those tasks will be adopted. Since my study is not only focused on communicative target, but also on critical thinking, different types of tasks will be designed for various teaching objectives. With all the above types included, I resort my tasks in this way:

1) Speaking tasks

This type of task is designed for students to articulate their opinions with valid reasons. It can be listing, sorting, comprising, problem-solving questions based on the reading materials; however, the ultimate output should be speaking. This type of task requires students to think critically for their opinion and to use target language for express their opinions, too. So it can stimulate students' critical thinking together with their foreign language acquisition.

2) Writing tasks

These tasks are focused on critical thinking after reading. After reading and discussing the reading materials, students will be assigned to write something in which, they can show their understanding of the reading material in a clearer and logic way; they can also use the writing strategies they have learnt from it; they can imitate the author's writing style; they can show their reflection or feedback to the finally result in the classroom debating. I believe it is a good way for the teacher to read into every single student, to see our teaching result, to grasp the students' understanding level to the reading materials, to evaluate their critical thinking competence. And it is also a door for introverted students to express themselves.

3) Reading tasks

Since my study is based on English intensive reading class, reading tasks will be the main tasks through the teaching procedure. However, the reading tasks will not be given alone; they are always combined with problem-solving questions, analyzing tasks, generalizing tasks, summarizing tasks, etc. Because reading is not the ultimate teaching objective, while understanding, applying, analyzing, evaluating and creating are. Reading is a way leading to that objective, and critical thinking is a tool.

4) Construction tasks

This sort of tasks is designed to stimulate students' critical thinking in a more synthetic way. They will be asked to finish a KWL chart, to find the key words in each paragraph, to design a mind-map for the whole reading material, to make a spider-gram for the theme, to draw a story developing line, to make a table showing the key elements of the story, etc. Whatever the task is, the outcome should be shown on the paper. The task requires students to have a whole picture of the reading materials in their mind, and construct them by drawing something on the paper through the process of critical thinking.

In order to trigger critical thinking as much as possible, most of the tasks in my study are group tasks. Once a task is released to students, each of them has to think critically by themselves for their own opinion. With their own opinion, they can discuss or argue with their group members, revise their opinions and reach a most-accepted group opinion; however they are allowed to keep their own opinion if it is not agree with the group opinion. In this step, students' critical thinking must be much more active than in the step of forming their own opinion. The next step is to share the group opinion with other group for a relatively perfect opinion for the task. In this step, students will be given time to show their group result with valid reasons, and to

integrate their result with other groups' or insist their result and argue with other groups. Finally, one or more results will be formed after the fierce debate. Whatever the result is, it is a fruit of critical thinking by all of the students and the teacher. When students are given the task at the very beginning, they carry out critical thinking passively for an answer, but when they are making a group answer, they carry out critical thinking passively in order to convince other group members. And when they are debating with other groups, they are making most efficient critical thinking, since at that time, they have the opinions and reasons of their group members in mind, in another word, they have a clear clue to debate. And in fact it provided a forum for critical thinking.

2.7.3 The definition of Task-based Learning Approach (TBL)

Nunan (1989) believes that TBL has its unique structure: it is composed of teaching aim, information input, activity form, roles of teachers and students, and teaching environment, etc. In his Task Design in Communicative Class, he analyzes three factors: input, learners and activities. Language input has effect on task in the level of difficulty. Skehan (1998) emphasizes that the priority should be given to meaning. He stressed the completion of task, while the evaluation should be based on whether the task is finished well. Luo (2008) advocates to introduce task chain to meet the need to choose tasks from easy to difficult ones. When students can accomplish more and more difficult tasks, they can realize that they are making progress.

Wang (2016) generalized the definitions of TBL in her study titled An empirical study on the application of Task-based Language teaching method to college English reading course. She referred that Brown defines TBL in this way: Task-based teaching regards the task as the center of the teaching method. The so-called learning process is the task connected with and serves the teaching objective. Therefore, task-based teaching refers to the teaching carried out by teachers by guiding students to complete tasks in class. Wei believes that "task" refers to activities designed for the classroom which requires students to use target language for solving problems that they may meet in their real life. And TBL is a classroom language teaching conducted by teachers with such "task". Gong and Luo believe that the basic idea of TBL is that the tasks assigned in the teaching process must be meaningful and purposeful, and activities must be carried out to accomplish one thing, not just a mechanical language

practice. Hu defines TBL as "It is a kind of teaching mode in which students are allowed to use English to complete real life tasks, study tasks, work tasks and other tasks. By completing those tasks, students can realize the goals of classroom teaching and tasking and meanwhile, their ability of foreign language application can be cultivated.

From the above definition, I summarize TBL as follow: Task-based Approach stands for a type of classroom teaching mode, in which teachers design various "tasks" according to the learning content, and organize teaching with "tasks" as the core. These "tasks" originate from the learners' daily life, study and work, and combine the students' study with real life. TBL emphasizes the dominant position of students, pays attention to students' learning in the process of completing tasks, and improves their language ability and the ability to apply language knowledge while solving problems. It is a teaching method that emphasizes "learning by doing".

However, it should be emphasized that in my study, the definition of TBL is a little different from the traditional definition. In my study, it refers to a classroom teaching which is conducted by various tasks, but these tasks do not need to be derived from real life, but serve the fundamental purpose of cultivating students' critical thinking and a better understanding of reading materials. The traditional TBL is usually used in oral classrooms of foreign languages, and its purpose of teaching is to cultivate students' ability to communicate in the target language. In my research, TBL needs to serve intensive reading class. In such class, communication is only a means. Students need to communicate with reading materials, authors, themselves, group members, classmates, and teachers to practice their critical thinking and to have a deeper understanding of the reading material.

2.7.4 Principles in Designing Tasks

So far, there is not a universally recognized set of principles in task design. According to Skehan (1998), Harmer (2000), and Nunan (1993), the following should be considered: firstly, a definite aim of tasks; secondly, a properly difficult task; thirdly, choosing and ordering should base on harmonious development of teaching aim; fourthly, in order to motivate students, forms should continuously change, and media should vary; fifthly, information complementation, and emphasis on real communication; sixthly, follow the all-round education principle, enhance students' language competence, and develop their imagination, tastes, interests, team spirit, and

creativity, etc.

Jane Willis (1996), after Long and Crooks, in her A Framework for Task-based Learning lists the following five principles:

1) There should be exposure to worthwhile and authentic language.

2) There should be use of language.

3)Tasks should motivate learners to engage in language use.

4) There should be a focus on language at some points in a task cycle.

5) The focus on language should be more or less prominent at different times.

D. Nunan in 1999 put forward to the principles for TBL, too:

1) The authenticity principle

The teaching materials should be as authentic as possible. It is necessary to provide learners with definite and authentic language information in task design. Task design should be closely related to students' real life.

2) The form-function principle

The relationship between linguistic form and communicative function are clear to the learners. Like what Long said: The meaning versus form (or fluency versus accuracy) debate is no longer a discriminating factor among teaching approaches because meaning and form are regarded as essential for learning. (Long, 1991; Long & Robinson, 1998)

3) The task dependency principle

A series of tasks in a lesson or unit of work forms a kind of pedagogical ladder, each task representing a rung on the ladder, enabling the learners to reach higher and higher levels of communicative performance.

4) Learning by doing

Learning by doing motivates students to fulfill their potential. Learners master the language by using it communicatively in the classroom, although they still have to learn grammar and memorize vocabulary. Long and Crookes (1993): A TBL sees the language process as one of learning through doing — it is primarily engaging in meaning that the learners' system is encouraged to develop.

5) Scaffolding

Scaffolding is a process of 'setting up' the situation to make the learners entry easily and successfully and then gradually pull back and hand the role to the student as he becomes skilled enough to manage it. (Bruner, 1983)

Skehan (1998) proposes five principles:1) Identify and target a range of language structures to be learned. 2) Choose tasks that meet naturalness condition. 3) Use tasks of appropriate difficulty level. 4) Use task implementation conditions that maximize the chances of directing towards form. 5) Use periodic cycles of accountability. The first principle identifies some structures that will be the focus of instruction. The second, third and fourth principles stress the necessity to make effective task choices and to implement tasks in the most productive way. The fifth one suggests that, teachers and learners need to consider which of the original target structures have been incorporated into the inter-language system. In the late 1990s, he added two principles: considering a series of grammatical structure, not only one item of the structure; from the angle of practical usage of grammatical structure, not according to the criterion of grammatical system to choose the structure in teaching. That is, to connect the students' past knowledge to what they are learning presently. I have discussed different types of tasks in the previous section, and whatever type of tasks we are choosing we will follow these principles in designing the tasks.

According to the English Curriculum Standard (2001), the principles of task design are: clear objective and feasible tasks; being meaningful and close to real life; beneficial to learning English knowledge and developing language skills, thus improving learners' practical applying competence; including the getting processing and transference; students using English to fulfill their tasks; a specific outcome is produced when task is finished; not confined to class, but can be extended to a scope out of class.

In my study, I will mainly follow the last type of principles for two reasons. Firstly, the rest of the principles given by foreign scholars are more focused on the use of language itself, while in my study, tasks are only a way to critical thinking competence and further understanding of the reading materials. Secondly, the principles in English Curriculum Standard are designed for Chinese Students by the Ministry of Education of the People's Republic of China, which will be more suitable for tasks making. Choosing the last version doesn't mean that I will give up all the other principles, instead, I will also adopt some principles from the foreign scholars. I generalize my principles as follows:

Table2- 5 Principles of Task Design (Tingting Wang, 2021)

1) Clear objective and feasible tasks.
2) Beneficial to form critical thinking habit.
3) Helpful to understand the reading materials.
4) Can improve students' applying competence and synthetic competence.
5) Can stimulate group work and cooperation.
6) Scaffolding. Tasks should be arranged from easy to difficult.
7) Be customized for various levels and of students.
8) Enable all the students involved in the tasks.
9) All patterns of tasks should be designed, not only communicative tasks.
10) Based on students' reaction, properly modify tasks in implementing.

Those principles are a combination of both Chinese version and foreign version. What I would like to emphasize is as teachers we should bear in mind that tasks are not the ultimate teaching objective, they are just a media and a way for more efficient classroom teaching. The designed tasks should satisfy students' needs, accord with the teaching requirements of college English course, and should be flexible and practicable. The tasks should also be interesting and challenging, so students will be willing to do that without too much pressure. Efficient tasks are expected to involve all students who are interested in the tasks and have the confidence to complete them.

2.7.5 The implemental mode of TBL

Regarding the implemental mode of TBL approach, the most famous one is called three-stage model proposed by Willis (1996). Willis is a representative of the "strong task". Her three-stage model is pre-task, task cycle and language focus. The pre-task stage is the preparation and warm-up stage of task-based teaching activities. The main task of this stage is that the teacher introduces the theme and task, so that students understand the background of the task activity. In this stage, the teacher is expected to help students recall the language knowledge related to the task in order to activate the learner's knowledge reserve. New vocabulary will be introduced to students for completing the task.

The task cycle stage includes three parts: task, planning, and report. First of all, students are assigned to partners or groups for performing tasks, and they can use target language to express their thoughts and opinions without paying attention to the correctness of the language. Teachers provide guidance and control when necessary.

Secondly, in the planning stage, the teacher should explain the time, object, purpose and form of the report to the students, and the students should be prepared to report to the class on the completion of the task. Third, in the reporting stage, each group sends a student to report on the task performance of the group. The report can be oral, written or audio recording. Teachers give proper evaluation after students report. The language focus phase includes analysis and practice. Teachers analyze the language errors that students make during the reporting stage, and explain new words, phrases, sentence patterns, and grammatical knowledge, so that students can master the language rules systematically, and guide students to practice the most difficult points of the language.

Table2- 6 Task-based Lesson Plan Model (Willis, 1996)

Pre-task

Introduction to topic and tasks
Teacher explores the topic with the class, highlights useful words and phrases. Learners may be exposed to examples.

Task cycle

Task	Planning	Report
Students do the task in pairs or small groups. Teacher monitors; mistakes do not matter.	Students prepare to report. Accuracy is important, so the teacher stands by and gives advice.	Students exchange or present report. Teacher listens and then comments.

Laguage focus

Analysis	Practice
Students examine then discuss.	Teacher conducts practice of new words.

Comparing with Willis, Skehan (1998) who has a different three-stage model is the representative of "weak task". His three-stage mode contains pre-task stage, during task stage and post-task stage. Pre-task activities include teaching activities, consciousness-raising activities and plans. Teaching activities refer to teachers teaching new language knowledge. Awareness raising activity refers to activating the students' original language knowledge system and improving students' awareness of language structure. Plan means that under the prompt of the teacher, the students prepare for the task within the specified time. The during task activities includes three parts: task execution, plan how to report, and report. Post-task activities include analysis and exercises after the report. In Skehan's three-stage model, pre-task activities are very important, which is also the difference between its model and Willis model. The latter two stages are similar to Willis model.

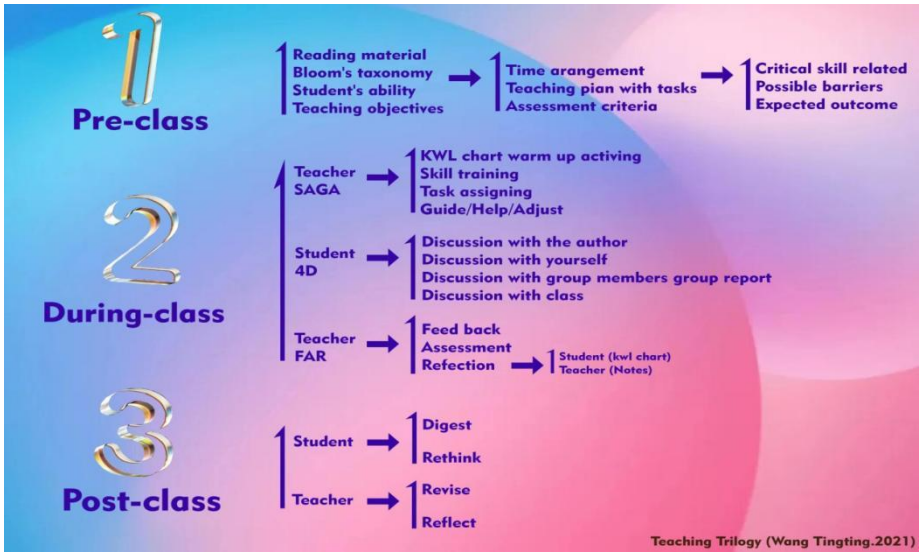
Based on Skehan's model, Ellis (2003) presents a model focusing on meaning and real-life activities. This model requires students to learn the foreign language for solving problems in their real-life situation. His model is also consisted of three stages, which is pre-task stage, during task stage and post-task stage. Ellis believes that if the students are given enough time to prepare and complete the task, their foreign language competence will be developed. Comparing with Skehan's model, Ellis paid attention to the communication in his model. Communicative tasks reflect three main approaches: consciousness-raising activities, focused communication activities and interpretation activities. The pre-task shows students the grammar they will master in the future and form is engineered by the design of the task. On the other hand, during task stage focuses on communication activities, which means performance is crucial. The way teachers handle error correction and how students react to the task are important. Teachers are expected to let communication flow and find strategies to make error correction in such a way that indirect focus on form is accomplished. Finally, students report to class. They may be exposed to any kind of input and then share with the group their understanding. Ellis' model also shows the conditions under which a task is performed (Ellis, 2003). He suggests a number of ways to regulate tasks: for example time pressure, which is regulated by the amount of time given to learners to perform the task. Familiarity with a topic also influences task performance. If a topic is relevant to students' own experiences, there are more chances of having engagement and intrinsic motivation.

Table2- 7 A framework for Designing Task-based Lessons (Ellis, 2003)

Pre-task (consciousness-raising activities)	Framing the activity (e.g. establishing the outcome of the task) Regulating planning time Doing a similar task
During task	Time pressure Regulating topic
Post-task (Focused communication activities)	Number of participants Learner report Repeat task Reflection

Since my study will be carried out in College English intensive reading class, not speaking class, so I focused more on students reading rather than speaking the language. So, I designed a new model for my study by making some changes to the above models. It is also a three-stage model, which is composed of Pre-task, during-task and post-task. Pre-task stage is for the introduction to the topic or tasks. In this stage, teacher should know the learning status and characteristics of all the students and explores the topic or tasks with the class. To raise students' critical thinking consciousness, the most difficult part of the topic or the tasks should be highlighted to students. And the teacher should make sure that the task is suitable for each group so that every student will be involved. The next stage is during-task. In the stage, personal time comes first, then the group time, finally the class time. Personal time is for students to think by themselves to get a brief opinion to the task. With personal opinion in mind, they share and discuss with group members and try to reach a group opinion. What I need to emphasize is different opinion can be kept in this discussion. Class time is for groups to present and exchange the report. Students who kept their own opinion after group time can find students with the same opinion from other groups, and think the rationale of it from the perspectives of other students. The third stage is post-task which is consisted of comments, revision, and thinking strategy. After class discussion, teacher is expected to give comments on students' language, as well as their critical thinking skills. And then, groups examine and revise their opinion. The critical thinking strategy they used or learnt should be mentioned. The tasks are designed for further understanding the reading materials, and the critical thinking strategy or habit should be trained for students to complete the tasks.

Table2- 8 Teaching Trilogy Mode (Tingting Wang, 2021)



To summarize this chapter, I think critical thinking refers to the integration of skills and attitudes. It has no scientific boundaries and is not limited to a certain theory or discipline. Any topic involving intelligence or imagination can be reviewed from the perspective of critical thinking. Critical thinking is not only a thinking skill, but also a way of thinking, noticing and exploring; it can not only reflect the level of thinking skills, but also highlight the modern humanistic spirit. This chapter systematically establishes the precedent research of critical thinking.

2.8 Chapter Summary

This chapter gives its own definition of critical thinking. Foreign research mainly focuses on the definition of critical thinking, the construction of measuring tools, and the teaching research of critical thinking, while domestic research mainly focuses on the introduction of concepts, research on teaching practice and research on evaluation methods. Model construction is an important part of critical thinking research both at home and abroad. The one-dimensional model, two-dimensional model, ternary model, triangular pyramid model and hierarchical model introduced in this chapter have laid a good theory basis for the in-depth study of critical thinking. However, the above research is a theoretical discussion from the perspective of psychology and cognition. The research area is relatively narrow, and there is not enough attention to how to cultivate students' thinking ability in actual teaching.

The construction and testing of the measuring tools for college students' critical thinking ability has made an important preliminary foundation for the study of Chinese students' critical thinking ability. However, on one hand, the factors that lead to different levels of critical thinking ability are very complex, including intelligence, family environment, growth experience, school education, etc.; on the other hand, the cultivation of critical thinking ability is mainly in the learning process in which the learners’ habits formed and the abilities accumulated. Although the measurement is important, it can only reflect problems and cannot solve problems. Therefore, the future research on critical thinking ability should focus on how to cultivate critical thinking ability and how to find feasible solutions.

Although many articles in CNKI have mentioned that English teaching needs to emphasize the cultivation of critical thinking, there are few successful cases and statistical data for reference on how to operate. An important reason is that critical thinking ability is difficult to measure, and how to measure it mainly depends on the

research method. This study will adopt the action research to explore the ways of cultivating critical thinking core skills for non-English major students so that they can have a further understanding of the English intensive reading texts and can transfer these core skills to the study of other subjects.

As for critical reading, Chinese scholar has done some research on the concepts and implementation strategy of critical reading. After searching the CNKI, I found that there are some theoretical academic essays, but only a few empirical research studies. With the purpose of providing feasible strategy for college English teachers, this study focuses on empirical research to prove that the implementation of critical reading in senior high school English reading teaching can cultivate students' critical thinking ability and improve students' reading performance.

My empirical research will be carried out in English intensive reading class, and the main teaching approach will be task-based learning approach. In my study, the definition of "task" is a single question or a series of questions expected to be answered by the students in the form of speech, picture, presentation, show, etc. with the instructions from the teacher and help from classmates. And three types of tasks will be given to students, including speaking tasks, writing tasks and construction tasks. In my study, task-based approach stands for a type of classroom teaching mode, in which teachers design various "tasks" according to the learning content, and organize teaching with "tasks" as the core. Learning from both Chinese and western scholars, I set up 10 rules for designing the tasks which focused on the group work and cooperation between students. Based on Willis and Ellis' research, I customized an implemental model for TBL approach for my intensive reading class. Following this model, TBL approach is expected to help students further understand the reading materials and form critical thinking habit through English intensive reading class.

Chapter 3 Methodology

This chapter gives a description of the research design and methodology of my study.

3.1Research method

I adopted Action Research as my research method. My research is a new practical research for EFL teaching in China with the purpose of developing students' textual understanding and critical thinking abilities in English intensive reading class by switching the learning and teaching approach into a more academic way based on TBL teaching. The aim of my research is to achieve more efficient teaching through the new TBL teaching approach with strategies for teachers and the university. On the other hand to help students form a deep learning habit by developing their capacities of critical thinking, and to get a further and analytical understanding on all subjects by transforming critical thinking capacity in English intensive class to all the other subjects.In this study, the reflection in the action research was observed from many aspects, including the student-participants classroom behaviour, their exam grades, questionnaires, interviews as well as critical thinking tests.

3.1.1 The development of Action Research

Definition Kemmis and McTaggart (1988) define action research as 'trying out the project ideas in practice as a means of improvement and as a means of increasing knowledge about the curriculum, teaching, and learning'. According to Sagor (2011), Action Research is an investigation conducted by the person or the people empowered to take action concerning their own actions, for the purpose of improving their future actions. Action Research first appeared in the United States during World War II. It was proposed by Collier, Director of Indian Affairs of the U.S. Federal Government. In order to get a good solution to ethnic issues, he asked scientists and practitioners to collaborate on research. This is the earliest try at Action Research. In the 1940s, the famous social psychologist Lewin further developed it and not only used it in the psychology field to study ethnic minorities, but also extended it to industrial training. He proposed that there is no research without action, and there is no action without research, which highlighted the importance of complementarities between action and research (Adelman, 1993). In the 1950s, under the impetus of Stephen Corey, Dean of the Education School of Columbia University, Action Research began to be applied to

the education field. He encouraged teachers, principals and supervisors to use Action Research to improve teaching and management. Action Research quickly attracted attention and was widely used in social research and educational administration, curriculum, teaching, and teachers' research. For this study method is particularly for teachers to improve teaching effects through systematic classroom research, it is especially popular among teachers. However, the rise of Action Research was soon questioned by the scientific community. Some scholars believe that Action Research has no great value, lack of scientificity and rigor. Since the late 1950s, Action Research has gradually cooled down (Zuber-Skerritt, 1996).

In the mid-1970s, under the influence of Lawrence Stenhouse (1975) and John Elliott (Hong, 2004), Action Research rose again. Stenhouse and Elliott clearly pointed out in their research that Action Research is a further development of teaching theory, and Action Research is mainly based on solving practical problems. Since then, many research reports about Action Research cases have been published. Stenhouse believes that through continuous research and comprehensive analysis, the conclusions of Action Research can be generalized. Since the 1980s, Action Research has once again become popular in Western countries, and has gradually been promoted and applied in developing countries. Nowadays, Action Research has become a research tradition in the western education field, and as a systematic research method, it has been continuously enriched and developed (Zuber-Skerritt, 1996).

In 1984, Chinese famous psychologist Chen Li introduced Action Research to China for the first time (Zhi, 2008). After that, some scholars introduced Action Research into the English teaching research in China, and established a new way of training foreign language teachers. The model has been explored by many researchers. (Wang, 1994; Wu, 1995; Pang, 1998; Huang, 1999). After entering the 21st century, a series of books on Action Research in education came out in China, such as "Wallace: Action Research for Language Teachers" guided by Li in 2000. To a certain extent, it deepens the understanding of the characteristics and purpose of the Action Institute. After that, in less than ten years, a number of related achievements have emerged in the foreign language teaching field in China. However, compared with the total number of domestic and foreign language teachers and foreign language learners, there are relatively few research results in this area, especially the application of Action Research in foreign language teaching in college.

3.1.2 Theoretical framework

The Scottish Consultative Council on the Curriculum (1996) wrote that "We learn most effectively when we think through for ourselves" and "A good teacher makes you think, even when you don't want to."Educator has realized the significance of students' thinking in the process of education.

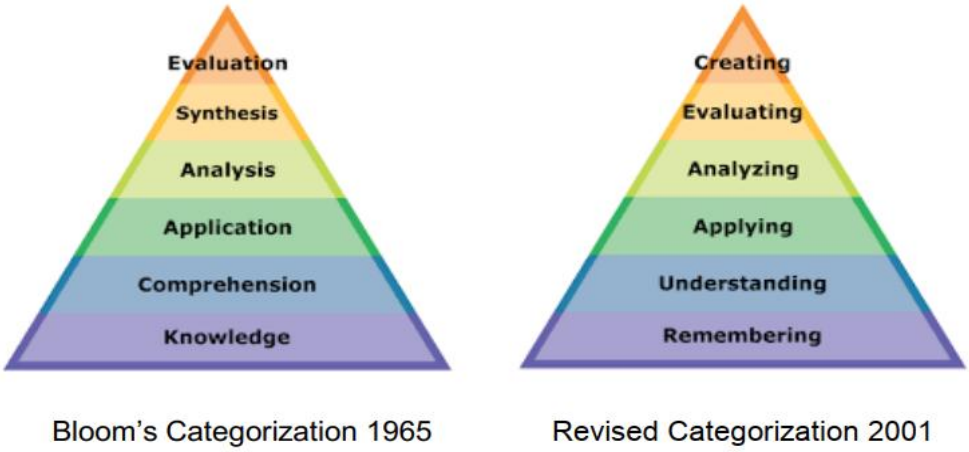
As Robert Fisher (2000) says "thinking skills enable pupils to turn their experience into learning. We need to focus on 'knowing how', rather than 'knowing what': learning how to learn. They are the foundation of personal development as well as making an important contribution to social and economic development by helping to develop students who have the capacity to think and act creatively, to meet challenges positively and effectively, and show initiative and enterprise in how they think and learn."

If we intend to cultivate students' thinking ability, the first think we should do is to categorize the levels of thinking skills. Mastering those skills, students can practice critical thinking and learn more effectively. In 1965, anAmerican educational psychologist Benjamin Bloom created a category to level different thinking skills, which is called Bloom's Taxonomy. Knowledge, comprehension, application, analysis, synthesis, and evaluation are the six levels of thinking skills in Bloom Taxonomy. Each one of the levels aims to construct one level of abstraction more complex than other. This taxonomy enables educators design their curriculum more precisely. The teachers can make their teaching plan focus on different level of skills. And it is also a measuring tool for assessment.

Since the top level of Bloom's Taxonomy is evaluation, some scholars believed that evaluation is not enough for the top, and the skills can be extended further. In 2001, they put up a revised version of Bloom's Taxonomy with creating as the top level of skills. Those scholars include instructional research, cognitive psychologists, and curriculum theorists. And they used a new name for their Taxonomy, which is called A Taxonomy for Teaching, Learning, and Assessment. Remember, understand, apply, analyze, evaluate and create were organized in a pyramid model from bottom to the top. Compared with the noun form words in the original Taxonomy, words in the revised one are all gerund which can emphasize the action of cognitive process. In this new Taxonomy, synthesis has been removed away, because both the evaluation skill and creating skill involves synthesis skill. And creating is thought to be the most upper skill which will bring new ideas or solutions to solve new problems since the

world is changing all the time. From the title of this revised Taxonomy, it is not difficult for us to notice that, it is not only a Taxonomy for teaching, but also for learning and assessment. That indicate students should positively make a project for their learning, from the basic skill to the higher skill step by step. As for teachers, except using those guidelines for plan our classroom teaching, we should improve our assessment method according to this Taxonomy. We should stop using the tests that merely based on information skill, but all levels of skills to train our students as critical thinkers.

Table3- 1 Bloom's Categorization (Bloom)



To design our curriculum, our teaching, and assessment follow the rules of Bloom's Taxonomy, teachers can help develop critical skills for students to have the capacity to think and act creatively, to meet challenges positively and effectively. And show initiative and enterprise in how they think and learn. It is the guidelines for teachers as well as a theoretical framework for my study.

3.1.3 The principles for Action Research

The principle of feasibility

Any research should pay attention to its feasibility at the beginning of the plan, and pay attention to the subjective and objective conditions of the researcher. And the research method must be compatible with their ideas and working conditions. As in this study, the researcher has been teaching English intensive reading for 15 years, and is familiar with the teaching content and knows the problems in teaching and learning well. With those problems in mind, the researcher was so desire to bring

fresh teaching mode for improving the teaching effects. The researcher has many colleagues who have the same aspiration with her, and the college has given us enough freedom in the teaching mode. All those above make this study feasible.

The principle of practicality

As Wang (2013) in his book *Theory and Methods of Action Research* indicated, Action Research is advocated to discover problems, work on problems and solve problems in the process of teaching practice, and to improve practice at the end. The results of the research must be tested by teaching practice and students' learning practice. The value of research results depends on whether they have promotion and application value, mainly whether they have solved practical problems, whether they have improved the current situation of education and teaching, whether they have improved the quality, and whether they are conducive to students' learning, practice, and creativity. This study was carried out basing on the problems in the teaching practice, and the result of this study showed that whether the new teaching mode can have the expected effect or not. If it is tested to be useful, the new teaching mode will be promoted to all the other teachers. If it is not as efficient as expected, it will be revised.

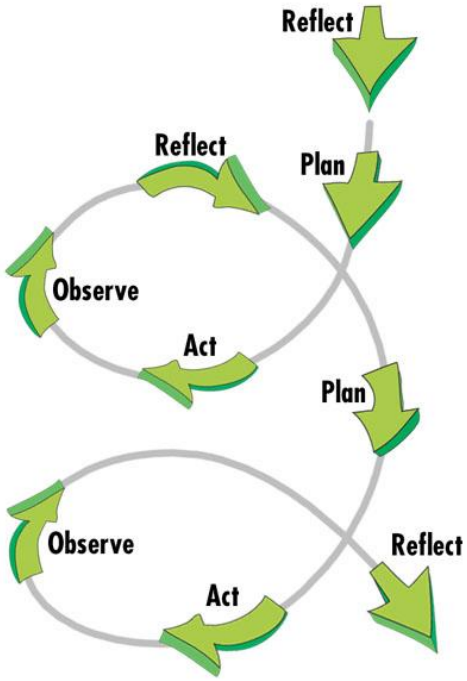
Dynamic principle

As the Action Research Cycle below showing, Action Research consists of a four-part cycle of planning, action, observation, and feedback. The reflection of the action has to be adopted into the plan for a better result. So, timely feedback allows researcher to adjust plans and actions for making them more reasonable and effective. In this study, the researcher regularly walked into the classroom to observe, and had discussions with the two teachers and participants to understand the feelings of students and the implementation of the teaching mode. Based on this information, the researcher modified the teaching mode so that it can be adapted to the teaching better and achieve the expected results. The two teachers gave direct feedback of their teaching as well as possible suggestions; however it is the researcher who conveyed the modification in the teaching mode. The teachers can adjust their teaching design according to the modified teaching mode.

The researcher is a college teacher, so what she is doing in this study is absolutely relevant to her own work. And she has the power to adopt more effective

teaching mode and to make some change to the assessment. As the fourth research question mentioned, this study is expected to find out the efficient and effective teaching strategies for training students' critical thinking ability, what the researcher wants is to find a teaching mode to improve students' critical thinking ability as well as their deep understanding of the reading materials. Basing on the above key points, Action Research is suitable to this study.

Table3- 2 The Action Research Cycle (Thomas, 2009)



3.2 Research approach

Both deductive and inductive approaches were used in this search. Deductive approach was used when creating the new teaching mode. To find the problems, she has to see and to hear from students and teachers, and then suitable tasks were designed to form the new teaching mode. With the new teaching mode in hand, an inductive approach was adopted to check whether the mode was effective or not.

3.3 Data collection

Mixed research methods were used for data collection and data analysis. Christ (2015) pointed that Mixed Methods and Action Research are viable approaches for conducting special education research (Bruce & Pine, 2010; Christ, 2007; Collins, Onwuegbuzie & Sutton, 2006). These two methodologies are particularly useful in a

range of applications from classroom and school wide interventions, policy analysis, and even research grant applications (Christ, 2017). In the second edition of the SAGE handbook of mixed methods in social and behavioral research, Tashakkori and Teddlie (2010) brought together a collection of readings from experts in mixed methods research in response to the rapidly developing discourse surrounding research using mixed methodologies. They used Johnson, Onwuegbuzie and Turner's (2007) definition of mixed methods research in the Journal of mixed methods research: "the type of research in which a researcher or team or researchers combines elements of qualitative and quantitative research approaches… for the purpose of breadth and depth of understanding and corroboration". Mixed methods research can combine the advantages of both qualitative and quantitative research, and the two types of data analysis can improve validity in analyzing complex issues. Both quantitative and qualitative research methods have their unique features, and suitable for unique areas. In this study, qualitative data was collected as well as quantitative data. As for quantitative data, there were closed-questionnaires and tests. A large amount of data provided by quantitative data reflected the significance of a certain phenomenon or a certain problem, and sometimes reflected a trend of something. As for qualitative data, there were observation, interviews and open-questionnaires. The amount of this data is not as large as quantitative data, but it gave a special explanation to some specific situation or some phenomenon.

3.3.1 Qualitative data

Observation

Since this study focuses on the approaches for teachers to improve students' critical thinking in their English intensive reading class, at the very beginning of my research, instead of finding out the possible problems by a questionnaire directly, a semi-unstructured observation was designed before that. So that the researcher can be an insider and get the first hand information. Qualitative research was adopted here. After the permission from both teachers and students, the researcher went to their English intensive reading, to jot down some phenomena in the class that reflect the problems. Since the researcher have been teaching the same text book for a year, those problems that had found in my own teaching was added. Then the barriers that prevent students from critical thinking based on the observation record were worked out. During the implementation of the new teaching mode, classroom observation was done once a month and the data was collected by myself.

Exam

Students were required to take an exam of college English intensive reading at the end of the semester. Exam can provide two types of data. In the past, for the convenience of assessing, there are only multiple choice questions in college English reading exam. It is easy and fast for teachers to give scores, but it is also easy for students to cover their real reading abilities. In the university under research, when students have such exam, their seat is not far away from each other, so if the student's eyesight is good enough, he or she can copy the answer from neighbors'. To some extent, multiple choice questions make this more operable. Regarding to this weakness, the researcher made a little improvement to the exam with the permission of the dean. There were 80% multiple choice questions and 20% subjective questions on the exam paper, including some mind-map-drawing questions. The answers to those subjective questions which reflect students' thinking skill and way were collected as qualitative data. In addition to that, this type of exam can also bring quantitative data which was mentioned in the next section.

Interview

No interview was arranged at the beginning of this study. Based on the students' final exam results last year, the teacher's feedback, and the classroom observations, it was undeniable that the classroom efficiency of the college English intensive reading class was not high, students refused to think, and could not actively cooperate with the teacher's teaching. In view of this, at the beginning of the research, questionnaires and CCTDI-CV test were chosen to examine the problems of students' college English intensive reading class and their critical thinking level. The students themselves knew their state in class, and they were very aware of their shortcomings. They had no big ambition to step out their comfort zone, or they did not know how to step out. If they are interviewed at the beginning of the study, they might feel more self-conscious which would cause psychological pressure to them. After a semester's training, because of the new teaching mode, the atmosphere of classroom teaching was improved, and students were more or less practice critical thinking consciously or unconsciously. In order to prevent the impact of final exam results on students' psychology and prevent students from negative self-suggestion due to low scores, interviews were conducted before the final exam results were announced. In this case,

students didn't know their scores, but they had a sense of participation in the classroom. Compared with the passive learning before, students had a different experience at the end of the semester. Since critical thinking has been trained to a certain extent, students were relatively more confident than at the beginning of the semester. In the interview at this time, in order to make the interview data representative, students were selected in each of the six classes to conduct interviews. In each class, one student whose exam score is ranked in the top 30% and one whose score is in the middle 30%, and one of the bottom 40%. In the interviews, to avoid problems that may cause psychological pressure on students, interviews were mainly conducted on their classroom experience and the changes in classroom teaching they expect. The interviews were conveyed under the BERA ethical guidelines for educational research, fourth edition (2018).All participants were informed about the research, what was expected of them and what would happen to the information that they provide. Considering safe-guarding, the interviews in the research would be taken place in the library of the University. To store the data confidentially, the researcher's personal laptop was used.

In interviews, students-participants were asked the effective strategies they thought work best on them. All the data was kept confidentially and signpost the students to the welfare officer in the university when students have emotional distress. The interview stopped when the participants did not want to continue with our discussion, and part of the recording was deleted as they wanted to. The students-participants were given absolute assurance that what they had said in the interview would have no influences in their scores of this course, so that they had no hesitation in telling the true feeling which would be valuable in modifying the further teaching.

For Action Research is a mixed method, except qualitative data for detailed information, quantitative data will be collected as well which will provide a larger amount of data for this study.

3.3.2 Quantitative data

Questionnaire

After the classroom observation, an open questionnaire was designed for the students to work out the real problems in their English intensive reading class and to reveal the causes for their classroom behavior. In order to investigate the current situation of college English reading classrooms, the researcher conducted classroom

observations and then designed questionnaire for prominent problems in the classroom to explore the reasons behind the phenomenon. For example: the number of students asking questions in class was very small. Through the questionnaire, the researcher can find out whether it was because students were not good at thinking, so they did not ask questions in other classes, or they did not understand English because of language barriers so they had no questions, or they had questions and just did not want to ask. Through the questionnaire, the reasons behind the problems can be found and classroom teaching design can be more targeted, so as to achieve the research purpose more efficiently. The reason choosing questionnaire is that it is easy to get large data in a short time, and it can make a distance between the researcher and the students which would make students feel safe and honest to answer the questions. To ensure the number of valid questionnaire, the questions are phrased in a way that all the students can understand. They were clear questions without ambiguous. The categories of response were clear, too. The questions on the questionnaire were all based on the observation and later summarization from the notes. And they were arranged in a particular order on purpose. With the questionnaire there was a covering letter explaining the purpose of my questionnaire, asking for their cooperation and declaring the anonymity of the questionnaire. To compare the effectiveness of the new teaching mode, another questionnaire was given to students after the final exams at the end of the semester. The questions on this questionnaire were just the same as the previous one, while different answers were expected after the training for a whole semester.To asking for the shortages and suggestions to improve the new teaching approach, the researcher put those in anonymous questionnaire.

Test

Since the key purpose of this study is to improve students' critical thinking ability, it is essential to master the students' critical thinking level before hand. Among all assessing tools, CCTDI-CV was used in the research, because it is customized for Chinese students with 70 questions in Chinese. According to the six-point Likert scale, the opinions to each question are divided into six levels from "strongly agree" to "strongly disagree". Each level of negative items is assigned 1-6 points, and positive items are assigned inversely. Those questions have nothing to do with college English intensive reading class, while they are ordinary questions about their thinking habit. This test was taken twice, too. One was at the beginning as a quantitative data for

assessing the level of students' original critical thinking ability. The other one was taken at the end of the semester to see the change of level in students' critical thinking ability.

English intensive reading exam

The scores of the 80% multiple choice questions in the final exam were collected as quantitative data. The scores can reflect the depth of students' understanding about the intensive reading materials as well as the learning and teaching efficiency with the new teaching mode. What needs to be emphasized is that student participants were asked to take questionnaires anonymously. In tests for critical thinking abilities, numbers were used to represent student participants to protect their privacy. To notice the change in their level of ability, each student would be used as the same number in all the tests. When collecting scores of their final exams, numbers would also be used to represent students instead of names. And in interviews, they were not asked for names. No real names of participants were included in the dissertation. All the data was collected and analysed by the researcher and was kept in her password protected PC.

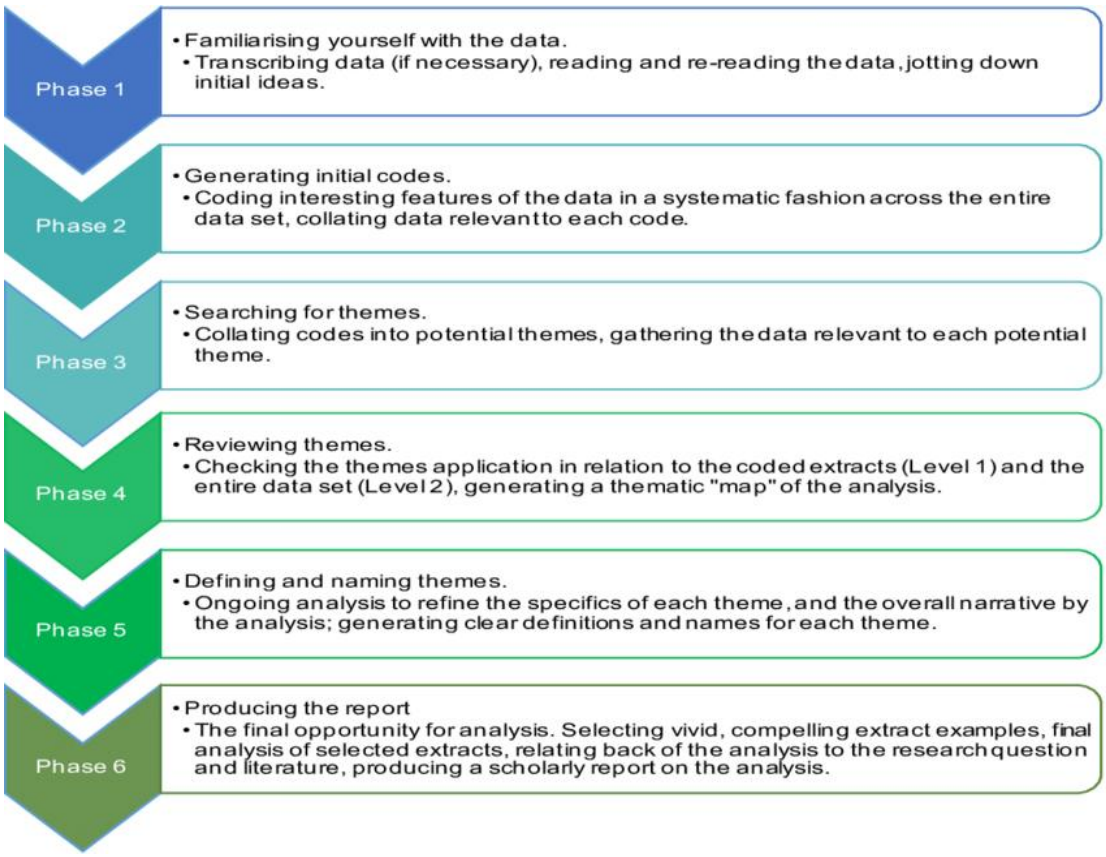
3.4 Data analysis

The researcher described the answers she got from the questionnaire and associated them with the class observation to find out causation and inference which were likely to be the main problems that prevent students' critical thinking. To deal with the problems, the researcher searched for materials and references to work out strategies. This took a considerable amount of time; however it was the most essential part of the research. Through reading and thinking, a set of approaches were designed for teachers to try in their English intensive reading class for stimulating students' critical thinking.

SPSS was used to analyse the quantitative data including test data, part of the exam data. The qualitative data from observations, interviews and parts of the exam data was described. Whenever needed, the thematic analysis was adapted. Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data. It minimally organizes and describes your data set in detail. However, frequently if goes further than this, and interprets various aspects of the research topic (Braun & Clarke, 2006). Thematic analysis is a method for analysing qualitative data in research,

and it focuses on identifying patterned meaning across a dataset. Among the references of the Thematic analysis, Patton (1990) made a succinct illustration which was easy for me to understand and practise. It consists of 6 steps and the table below was made basing on Patton (1990).

Table3- 3 Thematic analysis (Tingting Wang, 2021)



Then the results from both qualitative and quantitative data were shown in graphs as well as descriptions. With the result, it can be seen that whether the teaching and formative evaluation plan is efficient to improve students' critical thinking capacity in college English intensive reading class. The result was reported and new way of teaching and accessing was suggested to more teachers in this university. In addition, existing problems would be rethought and more possible theories would be considered to be used for revising the teaching and accessing plan. In a word, through data analysis, we saw the changes occurred regarding the achievement target. And further more we saw the relationship between actions taken and changes in performance on the targets.

The interview data was analyzed with thematic analysis. The above Table3-3 was

for thematic analysis, however when dealing with interview data, the steps were not exactly the same with it. Since they were interview data and the questions in the interviews are fixed, the themes were deductive, and didn't need to be generalized by the data. The five questions were the five themes. In this way, with themes in hand, the steps became less. And the procedure was:

Stage1.Familiarising with the data

Firstly, the audio recordings were transcribed into tape script, and the tape script were been given back to each interviewee for checking.

Stage2. Generating initial codes

Secondly, all the checked tape scripts were read and the key ideas to each question were highlighted for each interviewee's tape script (Appendix E). The key ideas were the code extracts.

Stage3. Relating codes to themes

Thirdly, put all the code extracts under their related themes and then categorized all the highlighted code extracts to rank them in the order of the frequency of mentioning.

Stage4. Producing the report

Finally use code extracts to provide an overall report to the five themes. When reporting, typical codes with high frequency of mentioning were used, because they were supposed to represent the feedback from most student participants; however, some interesting but less mentioned code were also used in the report for giving further research some directions. Those reports can reflect the effectiveness of the TT mode (Teaching Trilogy Mode).

3.5 Research Design and research tools

Since my study is an interpretative research about educational practice in social science, qualitative research was adopted to solve the current teaching problems which was the main intention in college teaching and was the issue aimed to explore. With the purpose of finding a series of teaching and accessing plan to improve students' critical thinking capacity in college English intensive reading class, Action Research as a kind of qualitative research was carried out in this study. The current problems of students in English intensive reading class were investigated by questionnaires and interviews. Given the tendency to have barriers towards criticality, Action Research was carried out to test whether my new design can actually developing students' textual understanding and critical thinking abilities.There were

four stages in the Action Research.

Stage 1:

To clarify the research vision and research targets.

Stage 2:

To get a clear picture of the problems and to articulate the theory. The approach with reasonable theories will bring great potential for achieving my research aims.

Stage 3:

To implement Action Research and collect data. In this stage, a new teaching and accessing design based on critical thinking theory and EFL teaching theories would be implemented by teachers, and data would be collected continuously according to my data-collection plan.

Stage 4:

To reflect on the data and plan informed action for the institute to adjust their future teaching plan and evaluation plan.

3.6 Research objectives

There are three main objectives of this study: performance objectives for students, process objectives for teachers and program objectives for the college. For performance objectives, the current English reading class was observed and surveyed to find the problems which prevent students from critical thinking and deeper understanding of the text. Some strategies were used in English reading class so that students are expected to improve their critical thinking abilities and form the habit of critical thinking through training in class. Meanwhile they can have a further understanding about the reading materials in English reading class. For process objective, investigate the researcher investigated effective and feasible techniques and strategies based on TBL teaching pedagogy and EFL theories to trigger students' critical thinking and form a teaching model for the English intensive reading class. With better developed critical thinking habits, students can make positive interactions with the teacher and peers in class which will bring a sense of achievement to both students and the teacher. As for program objectives, students were more active in the classroom teaching and teaching efficiency was better with this teaching model. Students can transfer their critical thinking ability from English intensive reading class to extensive reading activity after class and also to the study for other subjects. The habit and capacity of critical thinking formed and trained in English class would

have a long-term effect on their lives. The effective teaching model can be introduced to teachers in the college to have a better teaching outcome and to make more competitive students. So what the researcher did is to observe and survey the students and teachers and find out the real barriers that prevent university students from critical thinking and try to come up with feasible strategies for teachers to adopt in their English reading class for training students' critical thinking ability as well as developing their understanding comprehension capacity. Teachers are asked to carry out teaching plans with such strategies to see the effects. Some strategies would be used in designing tasks, assignments, activities, exams and assessments for triggering students' critical thinking. To achieve those research aims, my research will focus on the following four research questions:

RQ1.Why is it important to improve students' critical thinking skills?

RQ2.What is the benefits students can get from critical thinking skills in English reading class?

RQ3.What strategies are efficient and effective for training students' critical thinking ability?

RQ4.How is students' critical thinking abilities developed through the research?

RQ5.Can those teaching approach help students have further understanding of the reading materials?

3.7 Research sample and participants

There were 2 teachers and 180 students participate in this study. Teachers in the institute was divided into two sorts. Facing the unsatisfactory teaching outcome, some teachers were eager to find solutions, while others held the opinion that it was not their fault but the students', so there was no need for the teacher to change. Considering this, two teachers were picked up in Foreign Language institute with more than four years' teaching experience which means they had finished two full teaching circles. Those teachers were still young and still had enthusiasm in teaching, so they were more willingly to make changes in their teaching for better teaching efficiency. Among them, one teacher was from the Arts-major teaching group, and one from the Science-major teaching group. Each teacher was assigned to three classes randomly by the university online system. There were 30 students in a class, so all together, 90 Arts students and 90 Science students were invited to take part in the research. To this extent, random sample was used in this study. What need to be

mentioned was that the CCEE (China's College Entrance Examination) admission cut-off point of Science major was a little higher than Arts major in particular university being researched.

3.8 Research procedures

The research procedures were conducted basing on Sagor's (2011) work: The action research guidebook.

Step1: Clarify the research targets

At the very beginning, we had to find out the topic which is worth the time of teachers. No activity would be worth doing unless it makes the teaching more successful and more satisfying. So the focus of the research was the essential foundation of Action Research. The focus of the research was how to help students improve their critical thinking ability through the teaching in English intensive reading class so that they can have a further understanding of the reading materials and they can deal with problems better in the life. Once the ability of thinking is formed, students will benefit for life. They can not only improve the learning efficiency of other subjects, but also enable students to look at the problems in life and work dialectically, and play a significant role in improving the ability of students to solve problems. Since critical thinking is so essential for students in their lives, this research deserves time and efforts.

Step 2: Discovering the problem

College students were lacking in critical thinking habit and skills in this university. There was some evidence. To begin with, the scores students got from final exams were not satisfactory, especially the scores for subjective questions. For instance, question like "If you are the author, how will you convey your idea?" In addition, the classroom atmosphere was so dull. When the teacher asks for interactions, few students can join actively. Very few students ask questions in the class, and it seems that they have a full picture of what they have to learn and have got to know all the detailed information. But when questions were aroused by the teacher, it was not common to see students answer them voluntarily. As teachers, we may get confused, and we really ambitious to find out the reason of their silence. It is because they really have mastered what they are learning and there is no problem; or they haven't mastered at all and just do not want to ask questions; or they know the

answers but are not willing to interact with the teacher; or they are not sure of their answers, so they are not confident to share their answers. Further more, when we dealing with the reading comprehension questions after each reading materials, most students only care about which the correct answer is, and they don't care about why. If we explain the reason for them, some of them do not have the patient to listen to us. The university has a request of 75% passing rate, so in the final exam same reading materials with same questions will be put in the exam paper which occupy nearly 60% of the total score. With the correct answers, they can get passed in the final exam. The other 40% will be new reading materials which they never met before. Most of the students choose to recite answers to the 60% questions, and give up the chance of getting a higher score. Something worse was that we can even find students cheating in the exams by copying the answers from others or bring notes with them. Teachers wondered the reasons for such behavior. Were they too lazy to deal with the other 40% questions, or didn't they have the ability to deal with that, or did they think that those are useless knowledge for them? Finally, the passing rate of CET-4 (College English Test Band 4) and CET-6(College English Test Band 6) was not satisfactory, either. Having so many teaching hours at college, how can't they pass? Which were the main barriers for them in learning English as their foreign language? Or is there a gap in teachers' knowledge?

In conclusion, there were so many problems for college English teachers to work out, and it was very urgent for students, teachers and curriculum to change for a better teaching and learning efficiency.

Step 3: Action Research implementation and data collection — Survey by questionnaire, test, and observation.

With the above questions, investigation and research were carried out. First, myself and this research were introduced to these 180 students, and invited them to become important participants in my research. To emphasize the importance of the participants is to invite as many participants as possible, and also to make them aware of their essential role in the study, so that more real answers are expected in the questionnaires. The students expressed their willingness to participate. Then, the researcher walked into the classroom of these four teachers and started to observe and record the real classroom situation. Then, these 180 students were asked to help me

complete the questionnaire and CCTDI-cv test.

When observing the classroom, the classroom atmosphere was found not active, not because the teacher did not mobilize the students' enthusiasm for learning, but an average of 18% of the students in each class were not attending the class, or they had fallen asleep on the table. Some students were asked after class whether they had part time job and lack of sleep, however, none of them admitted that. Instead, they explained that frankly that they play computer games or phone games too late every day. And 57% of students play mobile phones, 6% of these students are using mobile phones to play computer games or chat, while the other students take out their mobile phones to take a look from time to time. The student's attention cannot be focused on what the teacher said. The number of students sleeping in class and playing computer games on mobile phones in class is larger in the three science classes with more boys than in liberal arts classes with more girls. Moreover, if student A sleeps or plays on a mobile phone, then his neighbor student B will be easily affected by him and will also sleep or watch him play on the mobile phone. Even if student B can rely on his own willpower and not sleep or play or watch, but he will still be affected by student A from time to time and cannot listen to the class well. When the teacher on the platform spotted student A and stared at him, or the teacher walked off the platform and approached student A's seat, student B would hit student A with his elbow, indicating him to do what he should do. There are other students who seem to be in a very good condition, sitting upright and looking directly at the teacher, but when the teacher asks him or her a question, he or she even doesn't know what the problem is. Such a student was obviously distracted, and the teacher noticed him through the sluggish gaze of the student, and then asked a question. Such a student soon can return to the state of listening to the class immediately, and then there will be a short interaction with the teacher, as if to prove that his or her thoughts have returned to the class.

In classroom teaching, when the teacher asked questions or organized activities, students were not very active in participating. The students sitting in the front row were relatively positive, while the students sitting in the back row had almost no feedback. When the teacher organized a group discussion, only the students in the front row immediately switch their sitting positions to do face-to-face discussion with the group members. At this time, the students sitting in the back did not know what had happened and what the students in the front row were discussing. But in order to

avoid being discovered by the teacher that they did not listen to the class seriously, they immediately switched their sitting positions and pretended to talk to the group members, but in fact, they were asking what tasks the teacher had assigned. After the teacher arranged the group activities, he or she would start to patrol between the groups in the class to observe the group discussion and provide necessary help to the students. At this time, students who don't know what the task were very nervous. They need to get the content of the task from their group members or the group next to them and start the discussion as soon as possible. Although these students had been mind absent from the classroom teaching, they still have the ambition to cover their absence, and can quickly catch up with the other students. To some extent, for these students, given more attention or different teaching method, they have the chance to be a good learner or a participant, since they haven't give up themselves totally.

For the teacher's question, the students sitting in the front row who volunteered to answer the question can basically answer it, but the premise is that the teacher's question is relatively low, such as knowledge or facts questions. But if the teacher asked questions about analysis and evaluation, their answers would be very one-sided. For the students sitting in the back row, the teacher will deliberately ask them to get up and answer questions in order to bring the minds of the distracted students back to the class. Because these students did not hear the teacher's lecture, even if they were called, they could not immediately answer. Sometimes the classmates sitting in front of him will prompt him for the answer in a low voice. Sometimes he needs to ask the teacher to repeat the question, and then give an answer after thinking for a while. Although the answer may not be the correct answer, sometimes they will answer directly: Sorry, I do not know.

In the group discussion, the discussion in the groups formed by the classmates sitting in the front row was relatively enthusiastic and relatively efficient, and finally a group feedback or we call it a group report was formed. It is difficult for groups formed by students sitting in the back row to have effective discussions. There are also students with relatively high academic performance in these back groups, but they did not give full play to their advantages as top students in the back row, and did not actively organize discussions within the group. They were even unwilling to communicate with those students who were distracted in class. They might already had the answer in mind, but they were unwilling to share with other group members in view of their learning attitude. Because there is not a good leader and organizer, the

discussion of the back group often digresses. When the teacher walked to their group, they pretended to say something related to the topic. When the teacher walked passed their group, they sometimes chatted in Chinese, and even talked about the game they played just now, and what they would have for lunch after class.

After classroom observation, the researcher designed a questionnaire with the purpose of finding the real causes of students' attitude and behavior in the English intensive reading class. Considering the demand characteristic participants may have, and avoiding the questions that may cause embarrassment of the students, the questions were designed carefully. And by collecting and analyzing the questionnaire result, we can induct the following problems that affect students learning efficiency.

1. Having no desire to answer or to ask questions in class

Among the 180 participants, only 8% of the students often took the initiative to answer the teacher's questions in the English intensive reading class, and 84% of the students never took the initiative to answer the questions. This was not only the case in English class, it is only 4% and 91% in other classes. Liberal arts students are slightly more motivated to answer questions than science students. Only 1.1% of students have asked questions in English intensive reading class. For students who do not answer the questions, 12% of them know the answer to the question, but are not sure whether the answer is correct or not, 4% are basically sure that their answer is correct, but do not want to attract the attention of teachers and classmates, and do not want to express themselves. 41% of the students do not know the answer, and 39% do not listen to the teacher at all and do not think about the answer. 4% of students know the answer, but do not want to answer for some other reasons.

Analyzing the possible reasons, one is that some students do have poor English foundation. Although they have entered university, many students have given up learning English since high school, and their English scores in the college entrance examination are only 30 points (out of 150 points). Even though these students want to study English well in university, they can no longer understand the teacher's lectures and gradually give up studying. Second, most of the students in the class have shown a negative learning attitude, so active students will arouse disgust from other classmates and affect the relationship between classmates. Third, most students have developed the habit of passive learning, and they only do what the teacher tells them that they must do. The fourth is that they don't want to think, nor can think, let alone doubt. What they care most is whether they can pass the exam or not.

2. Lacking of motivation

Only 7% of students like reading, while only 4% of students like English intensive reading course. 63% of students feel sleepy in class. Some students don't have the habit of reading, so they don't like reading, not to mention English reading classes. Some students are completely attracted by the Internet and are addicted to online games and various social media every day. They can't help playing games on mobile phones during class, and they stay up late to play games at night, which affects their sleep, causing them to feel sleepy when attending class the next day, and some fall asleep in class. Even if they don't sleep in class, they can't concentrate, which directly affects their learning in and after class. To solve this problem, the most direct way is to make the classroom more attractive. Teachers can motivate reading in a variety of ways. For example, to organize debates or speeches on reading materials, or take incentive measures to stimulate students' interest in reading. When they meet difficulties, the teacher should offer help immediately.

3. Do not recognize the importance of English

Students think that English intensive reading is not important. Because they are non-English majors, they think that only professional courses which closely related to their major will be useful for their future careers, and English lessons are a waste of time. In their opinion, if they do have the plan to go abroad in the future, they will not be able to use the English knowledge they have learned. Even if they enter a foreign company after graduation, they will still engage in technical work and do not need to communicate in English. Their inattention has led to their negative performance in the classroom. The only thing that can affect their employment is the final exam. As long as they do not fail, they can successfully get their graduation diplomas. In addition, they believe that they are not required to read English academic resources, so they don't think that learning English will enable them to see the world from another perspective. Facing this attitude of students, teachers should cultivate and train students' critical thinking ability in English intensive reading class, so that students can experience critical thinking and learn to see the world with a more scientific and critical perspective, and be able to see the world more thoroughly. It will also bring benefit on learning the knowledge of other subjects and will eventually help their personal development. Using critical thinking to read English materials is the beginning to think independently and creatively which is need by the development of

the world. As long as they have learned to look at the reading materials with critical thinking, in the future, they will be able to use critical thinking to see all the problems they meet, and avoid following the trend blindly.

4. Never dare to challenge the "authority"

Because in China, the textbooks of elementary and middle schools are published and compulsorily used accordance with national requirements, so in the eyes of Chinese teachers and students, textbooks are the absolute authority which represents the idea and opinion of the country. Few people question textbooks. Both students and teachers think that textbooks are perfect and the knowledge and information conveyed are correct. This believe makes students have no habit of questioning. It is always known that the teacher teaches knowledge strictly following the textbook, and what the teacher says is correct. Students formed the habit that whatever the teacher says, they just accept it. This is enough and very efficient. The student's view of "authority first" can be reversed. Teachers should start with anecdotes about celebrities around them, encourage students' creative thinking and critical thinking, and let them know the truth that "no one is perfect". Everyone has different experiences, different backgrounds, and different social status. Therefore it is understandable that they look at problems from different perspectives, and they are allowed to have different views on the same event. We are all independent individuals, and we have the right to keep our own views and opinions. In order to make our views and opinions more dialectical and objective, we should learn the thinking method of critical thinking.

5. The relationship between students and teachers is not satisfactory

Among all the participants, only 5% of the students thought the English intensive reading class was very interesting in the pre-test questionnaire. The main reason for this is the teacher. First of all, the design of warm-up part is not good enough to meet the students' interest. In this way, the students will have no motivation and interest in learning at the very beginning of a class. Secondly, teachers don't know each student very well, so they can't design suitable tasks for students with different characteristics, English levels and learning capacities. Finally, the classroom pace was too slow and the requirements were too low, and no corresponding rewards and punishments were formulated. In such an over relaxing classroom atmosphere, students think that their performance is not important and cannot play a decisive role. If they behave well, apart from being praised by the teacher, there is no other reward that attracts them; if they do not do well, they will not be punished with a significant impact on them.

Third, teachers cannot help students correctly understand the long-term significance of English learning and English reading. This makes students only pay attention to short-term benefits, which is, pass it, instead of getting the long-term learning ability and learning tools that English brings. Finally, and most importantly, teachers cannot promote student learning by establishing close teacher-student relationships. Teachers win the love and respect of students through their personal abilities, character and personality charm, so that a harmonious teacher-student relationship can be formed. Because they like this teacher, students will like the study of this subject. This method of using emotional incentives to bring better teaching effects is worth trying and promoting. To carry out teaching in such interpersonal relationships, both teachers and students will easily gain something with a happy mood. Otherwise, class will be a torment for teachers and students. As Einstein explained in the theory of relativity, when you are with your loved girl, one hour is like a minute; when you are in the fire, one minute is like an hour. If the students like the teacher, they will enjoy the class very much and they do not feel it a burden to study in this class.

6. Students' learning and thinking habit is not easy to change

Compared with Western countries' encouragement of innovation and respect for individuality, when Chinese students are in kindergarten, they are taught to listen to their teachers and obey their instructions. In order to get compliments from parents and teachers, children will listen to teachers at school and parents at home. The habit of unconditional obedience is gradually formed. Due to China's large population and relatively few high-quality educational resources, the pressure of competition among Chinese students is great. Under this educational background, China's middle school education is known for its "cram education" or "test-oriented education". Although the China's Ministry of Education has long been aware of the negative impact of test-oriented education on Chinese young people, it has been advocating "quality education", but it cannot really be implemented because parents think that "quality education" is unrealistic and hard to put into practice. It is impractical for people with food and clothing problems to pursue a noble spiritual civilization and is a waste of time. Many parents expect their children to climb the social class and turn the table through learning. Therefore, they ignore "quality education" and urge their children to obtain as much knowledge as possible within a limited time. As far as schools are concerned, they compare the results of the high school entrance examination and college entrance examination of their students in order to expand the school's

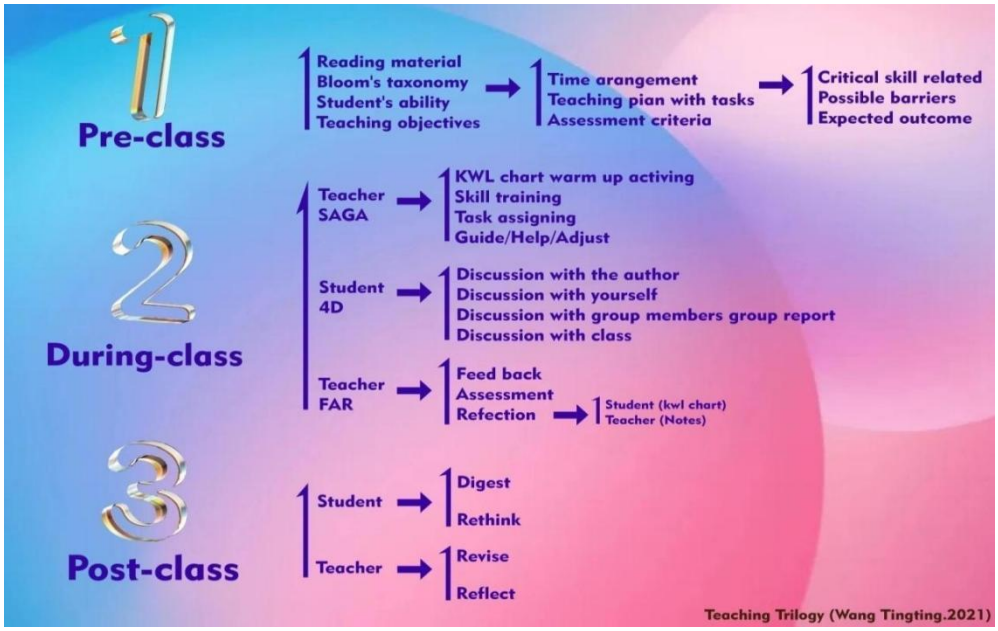
popularity and increase the number of students enrolled. Therefore, these schools cannot really implement "quality education." Neither parents nor schools can escape the actual needs of exam-oriented education. In the "exam-oriented education" classroom, in order to complete a large number of teaching tasks, teachers can only choose the fastest teaching method, that is, the teacher keeps talking and the students keep listening. Teachers sacrifice time for interaction to achieve so-called high efficiency, and the classroom atmosphere is doomed to be lifeless. Teachers don't have time to encourage students to think, and they don't have time to teach students thinking skills. With the purpose of saving time, teachers often ask and answer themselves, and students gradually form the habit of rote learning and passive learning. If things go on like this, students believe that the classroom should be like this, so that when the teacher is doing the public class, the students feel ridiculous about the tasks and activities designed by the teacher, and feel that they are making a live show instead of having a class. We cannot change the way of education at the elementary and middle school stages, but after entering the university, students have already crossed the "exam-oriented education" in order to seize high-quality educational resources. At this time, the assessment methods formulated by the school can change the learning methods of students and the teaching methods of teachers to a certain extent. Formative evaluation is the best way to avoid "exam-oriented education". Students no longer "determine victory or defeat" like the college entrance examination and high school entrance examination. The school's scores for students should be based on the student's performance at all stages of the semester, even every class, every assignment and class test score, and the final exam score. Once the assessment mechanism changes, students will naturally change their attitudes towards normal learning, cherish every opportunity to answer questions, and attach importance to every homework and exam. In addition, in order to prevent students from only pursuing the correct answers to the after-school questions in class, instead of pursuing the reasoning process of the answers, teachers should reduce the number of multiple choice questions and increase the number of subjective questions in the question setting of the testing paper. Subjective questions can effectively encourage students to train critical thinking in the classroom, and gain the results of critical thinking in the exam. When designing classroom teaching, ask more subjective questions, organize group discussions, and create an atmosphere and time for students to think critically. At the same time, in teaching, small skills of critical thinking are taught to students

skillfully, from low level to advanced level, through different tasks.

Step 4: Design the teaching mode and plan the teaching by reflecting on the data

Following the above principles, the researcher designed a new teaching mode for College English intensive reading class which is expected to improve students' critical thinking ability. To highlight the importance of continuous learning before, during and after the class, this new teaching mode is divided into three steps: pre-class, during class, and post-class, so we named it Teaching Trilogy (TT).

Table3- 4 Teaching Trilogy (Tingting Wang, 2021)



Pre-class step

——Decide what to teach and how to teach

The pre-class step was referred to the period for teachers to plan their teaching before class. As shown in the picture, there were four elements for teachers to consider. First, teachers had to get familiar with their teaching contents. Second, teachers had to know the ability of students and the expected level of ability improvement. In another word, teachers should understand the ability gap of students. Third, teachers had to be clear with the teaching objectives of this class. Forth, while reading into the materials, teachers had to bear Bloom's Taxonomy in mind and be sensitive to the points where is suitable for tasks. Based on those four elements, teachers can make the time arrangement, design the teaching plan with tasks, and decide assessments for this class. Then, teachers had to find the critical thinking skills

students needed to work with the tasks. Of course, in a unit of teaching plan, dozens of tasks were included. Because many of these tasks were designed with the purpose of improving students' critical thinking, they definitely involved more than one critical thinking skill. Teachers need to make an overall plan based on the teaching content of this semester, arrange appropriate critical thinking skills from easy to difficult, and put it in the teaching plan of each class. In short, at this stage, teachers prepared appropriate critical thinking skills that needed to be elaborated to students according to the type of tasks in this class to help students complete tasks better and faster. What's more, teachers had to predict the barriers which they or students might meet during their teaching and prepare some scaffolding support for overcoming those possible barriers. Finally, teachers must have a clear picture of the expected outcome of this class and everything they do should serve for it. When teachers design the teaching plan, they have to obey the following principles:

Principles for designing the teaching mode

1) Don't make students' feel too much pressure.

Create a safe learning environment

In order to ensure that students can speak freely and fully express their views, teachers created a learning environment that students think is safe and democratic. To do this, teachers need to recognize their own identities. Teachers are not class leaders with higher status than students, nor are they class controllers with more power than students. A teacher is a friend of a student, a co-learner who inspires a student's thinking, a person who helps organize and manage the classroom, a person who understands the content of learning better than a student, and makes a teaching plan. Teachers need to pay attention to their own words and deeds at all times, and try to communicate with students in a gentle and equal tone. In classroom teaching, respect the students, give full consideration to the needs of the students, and discuss the learning content with the students. Of course, when there is a problem with classroom discipline, teachers need to strictly manage the classroom.

Give proper time for students

Teachers need to fully consider the time arrangement when designing the classroom activities, and try to give students enough time to think, discuss and solve problems, so as to prevent students from feeling anxious or giving up thinking because of the tight time. Of course, if too much time is given, it will be

counterproductive. Students will slack off or discuss topics that are not related to the classroom teaching content, thereby reducing learning efficiency. Therefore, teachers need to gradually understand the time-consuming of each task for students based on their own experience and continuous attempts, so as to ensure an efficient classroom teaching without putting too much pressure on students.

Questions and tasks should be of different levels

In order to avoid putting too much pressure on individual students, teachers should ensure that the questions asked and the tasks involved are of various levels of difficulty when designing the classroom. Ensuring that every student has a question that can be answered or a task that can be completed can improve student participation in the classroom activities, and also give students of a sense of accomplishment to some extent. If the difficulty of the question or task is too low, some students will think that the classroom is not challenging and cannot satisfy their thirst for knowledge, and their ability will not be improved as they should; if the difficulty of the question or task is too high, some students will feel too stressed because the tasks are far beyond their abilities, so they give up thinking, gradually lose interest in learning, and give up learning about the course.

2) Encourage group work

Design group tasks and activities

In order to trigger critical thinking as much as possible, most of the tasks in my study are group tasks. Once a task is released to students, each of them has to think critically by themselves for their own opinion. With their own opinion, they can discuss or argue with their group members, revise their opinions and reach a most-accepted group opinion; however they are allowed to keep their own opinion if it is not agree with the group opinion. In this step, students' critical thinking must be much more active than in the step of forming their own opinion. The next step is to share the group opinion with other group for a relatively perfect opinion for the task. In this step, students will be given time to show their group result with valid reasons, and to integrate their result with other groups' or insist their result and argue with other groups. Finally, one or more results will be formed after the fierce debate. Whatever the result is, it is a fruit of critical thinking by all of the students and the teacher. When students are given the task at the very beginning, they carry out critical thinking

passively for an answer, but when they are making a group answer, they carry out critical thinking passively in order to convince other group members. And when they are debating with other groups, they are making most efficient critical thinking, since at that time, they have the opinions and reasons of their group members in mind, in another word, they have a clear clue to debate.

Design different types of tasks for different groups and always shift group members

When designing classroom teaching, it is necessary to customize different task types to mobilize the critical thinking and classroom participation of students with different thinking abilities. In order to prevent the fatigue of cooperation among group students, the group members should be changed regularly. Cooperating with different group members can expose students to different thinking angles and ways of thinking, so as to prevent members from becoming too understanding and forming solidified thinking. At the same time, changing group members and task types can also make students feel fresh, stimulate their enthusiasm for learning, and contribute to the development of critical thinking. In short, the collision of thinking among group students can promote students' thinking and contribute to the formation of critical thinking.

3) Following the scaffolding rule

The two teachers kept the scaffolding principle in mind when designing classroom teaching for the 180 student-participants. When designing tasks, teachers arranged tasks from simple to complex according to Bloom’s Taxonomy. When asking questions in the classroom, it is necessary to start with the questions that students can directly find answers in their textbook, and gradually transform to asking questions that require students to think deeply. In such way, students can be led into the classroom more smoothly. When explaining critical thinking skills that are out of textbooks for students, it is also essential to start with the most basic skills, so that students can gradually master those skills and improve their critical thinking skills. Each previous skill is helpful for the next skill. When designing the final examination paper, multiple reading materials should be presented to students in order from simple to complex. Following this principle can reduce students' rejection and resistance to the new knowledge they are supposed to learn, give students a certain degree of self-

confidence, and ensure that students of different ability levels can participate in the classroom and gain something.

4) Improving students' critical thinking ability is the priority teaching objective.

Although this Action Research was conducted in the college English intensive reading class, it should be clear that improving students' critical thinking skills is our primary teaching objective, and deepening students' understanding of the article is a secondary objective, which is different to other paralleling classes, and the teacher needs to pay attention to it. It stands to reason that the teaching goal of college English intensive reading class should be the improvement of students' English reading ability as the primary teaching objective. However, it was believed that only by improving students' critical thinking ability can students' learning ability be fundamentally improved, thereby bringing good results, including self-study effect and classroom teaching effect. Once students have formed the habit of critical thinking and mastered the skills of critical thinking, they can improve their understanding of various subjects and the cognition of all things.

Although our primary teaching objective is to improve students' critical thinking ability, we cannot ignore the teaching object of this subject. Since we rely on the college English intensive reading class, we should fully consider the characteristics of the teaching content when designing the classroom teaching, and design the teaching mode closely related to the reading materials. The procedure of classroom teaching should be based on the content of the textbook, the task design should also make full use of reading materials, and the medium of reading materials should be reflected in the final exams. While paying attention to cultivating students' critical thinking, we should also respect the author's writing purpose, comply with the requirements of the syllabus, and carry out Action Research on the basis of completing the teaching objectives of the university. What we do is to reach a maximum teaching effect. In other words, in designing classroom teaching, teachers cannot ignore objectives of reading teaching, and blindly pursue the objective of critical thinking.

5) Following the rule of flexibility

In the practice of the teaching model, teachers have to bear in mind that all the pre-designed tasks, teaching procedure, or questions are not fixed. Their order can be

rearranged, their complexity can be changed, and content can be modified according to the real reaction of all the students in classroom teaching. Although the design of our classroom teaching model is based on teaching theory and teachers' teaching experience, we have also considered possible influencing factors and differences in teaching objects as much as possible, but in actual operations, teachers may still encounter all kinds of unexpected problems. Some of these problems are unpredictable and occasional. Therefore, teachers did not have to dogmatically and completely follow the teaching design for classroom teaching, but made adjustments in a timely manner to make it more suitable for students and to ensure the completion of classroom teaching objectives. They conduct the adjustment under the Teaching Trilogy mode, combined with their own teaching experience and the feedback of their students. If there is no time to make adjustments during the classroom implementation, or no way to make adjustments immediately, teachers should make a note for themselves, and then report and discuss after class. Only in this way can our teaching model be continuously improved, will it be more scientific and reasonable, and will it be more possible to achieve the teaching effect we expect.

6) Insisting formative assessment principle

Formative evaluation instead of summative evaluation can better stimulate students' learning enthusiasm, and also facilitate teachers to understand their classroom teaching effects and students' learning conditions at any time. Therefore, in the designing of teaching model, evaluation should be run through the whole teaching process. For every lesson, every task, or every time a question is answered, timely feedback and evaluation should be given to students, and records should be kept. This type of feedback can help students realize their own learning effects, so that students who do not perform well can find their problems in time to adjust their learning and thinking strategies. On the other hand, students with good effects can get more recognition and can carry follow-up learning more confidently which will be a role model for other students. For teachers, these records can provide a fairer and more objective evaluation of students' classroom performance, learning effects, and the development of critical thinking skills. By comparing and analyzing these evaluation

records, teachers can to master the dynamic process of changes in various aspects of each student. Then, teachers will improve their teaching model and hope the model may have a better effect in improving students' critical thinking ability in college English intensive reading class.

Since the teaching model is mainly rely on the Task-based Learning (TBL) approach, and most tasks are group tasks as explained in the previous section, encourage a culture of peer constructive feedback will be helpful for formative assessment. In another word, the final assessment of each student is not all from the teachers, but also from peers. The group members work together on the tasks, and they show their opinion and thinking process with each other, so those peers can give a relatively fair assessment to each other. They coach each other and improve together. According to my teaching experience, it is easier for students to accept the evaluation of their peers than the evaluation from the teacher. If the evaluation from the peer is high, the student will feel a sense of achievement because of the affirmation of the peer; if the evaluation from the peer is not high, the student will say: He is only a student, not authoritative or professional, and he does not understand the rules, so he gives an evaluation as laypeople. In this way, the student found an excuse for self-comfort. So, as long as the evaluation comes from peers, whether it is positive or negative, students can accept it easily, and it rarely brings pressure to students as the teacher's evaluation.

7) To form the habit of Reflective cycle

It is a slow and long process to help students form the habit of critical thinking in teaching, and to acquire and improve the ability of critical thinking. However, in order to shorten the process, teachers can guide students to self-reflection through reflective-cycle learning method, which can help students adjust their thinking patterns in time, gradually optimize their thinking habits, and form critical thinking habits faster and better. Gibbs reflective learning cycle (Gibbs, 1988) is a efficient structure for learning from experiences. It offers a framework for examining experiences, and given its cyclic nature lends itself particularly well to repeated experiences, allowing you to learn and plan from things that either went well or didn’t go well. It covers 6 stages:

1. **Description**of the experience

2. **Feelings**and thoughts about the experience

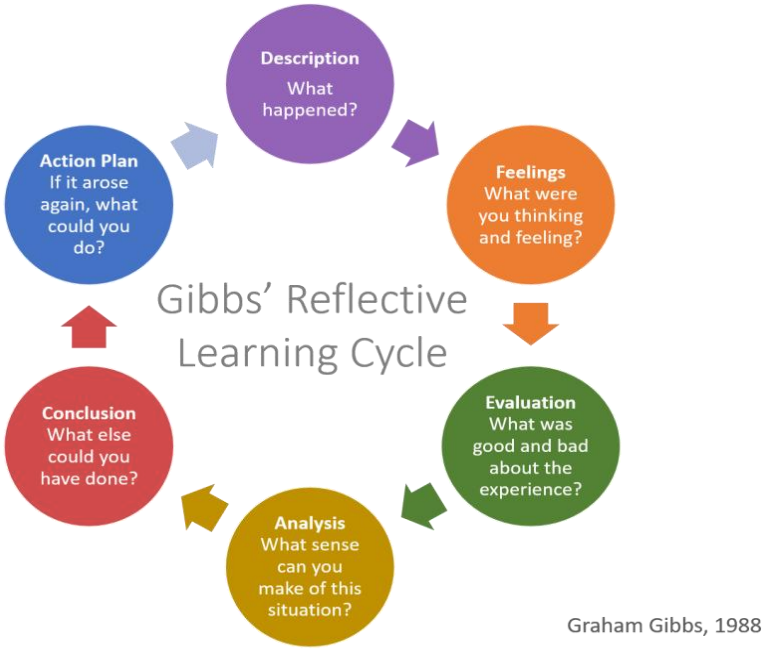
3. **Evaluation**of the experience, both good and bad

4. **Analysis**to make sense of the situation

5. **Conclusion**about what you learned and what you could have done differently

6. **Action plan**for how you would deal with similar situations in the future, or general changes you might find appropriate (Gibbs, 1988).

Table3- 5 Gibbs' Reflective Learning Cycle (Graham Gibbs,1988)



Students should follow this method to form critical thinking habit, and teachers and should also follow this method in carrying this study. We can see each teaching period as an action, we should always reflect on the action and make necessary changes to our next action plan for a better teaching effect. So reflective-cycle is beneficial to both students and teachers, and it is a useful principle for us in designing our teaching mode.

During class step

——Implement tasks for critical thinking in groups

This stage is mainly divided into three parts of implementation, and the main executors of these three parts are teachers, students, and teachers. In this action research cycle, each teaching unit followed this step and tasks were designed for each

step.

As shown in the figure, the first part is referred to as the T-SAGA (Teacher-Skill elaborating, Task assigning, Adjusting) part for short, which refers to the four aspects of teaching led by teachers. The first part starts with the introduction and lead in. Teachers can stimulate students' curiosity about new knowledge through brainstorming or KWL chart, and explain to students the critical thinking skills of this lesson. Then the teaching moves on to next part that the teacher will explain the reading material, or we call text, step by step according to the teaching plan cooperating with tasks. After assigning each task, the teacher should patrol the groups in the class to master the progress of the group work, provide guidance and assistance, and adjust the tasks according to the problems of each group. This stage plays a decisive role in the teaching effect of the whole class. If the teacher can't lead in well, the students will not have the enthusiasm for learning, and the classroom participation will be low. If the appropriate critical thinking skills are not fully explained, students will not be able to complete the task effectively, and their critical thinking skills will not be improved. As mentioned above, teachers need to decide which kind of skills to explain in each unit based on certain principles, so they won’t be repeated there. After assigning the task, if the teacher does not go to the students, the group discussion may be off-topic, and the students may discuss content that has nothing to do with the class. Problems that the group cannot solve will also affect the completion of the task.

The second part is named S4D (Students 4 Discussions). As the name suggests, the main executors of this part are students, and the execution content is four discussions. The discussion objects are, in chronological order, the author, the students themselves, the group members and the whole class. In these four discussions, students should refer to the thinking skills according to the type of task given by the teacher. First of all, the students "discuss" with the author of the article. This is a vivid metaphor. It actually means that the students have to think about the emotions the author wants to express and the purpose the author want to achieve. Next, students will discuss with themselves, just to make themselves think: What is my point of view? How did I come to this point? Or what is my logic? After reaching a conclusion, students should discuss with other members of the group, share their opinions, and give arguments, try to think about the problem from the perspective of other students, seek agreement while reserving differences, and finally form a group report. After each group report, the whole class discussed together and find a relatively reasonable solution. In this

process, students can gradually find the right angle of thinking, form the right way of thinking, and develop the habit of critical thinking. Of course, ideas that cannot be reached agreement can also be retained. As long as they are logically reasonable, they are the fruits of acceptable critical thinking. This can promote students' critical thinking while encouraging students' creative thinking. The content of the previous part and this part overlap in time to a certain extent. Teachers' inspections, assistance, and adjustments to tasks mainly occur during this time period. Of course, this part can also be carried out according to the TBL Mode steps mentioned before. The main process is the same as S4D, and the specific implementation steps can be adjusted appropriately according to the situation of each task.

The third part is called T-FAR (Teacher- feedback, assessment, reflection). In this part, the teacher mainly performs three operations. First of all, the teacher should give feedback to the reports and performance of each group, and highlight the teaching purpose of this task, so as to pave the way for the follow up reading. Secondly, the teacher should give scores to the groups according to the assessment criteria, and at the same time, ask the group members to score each other. The teacher has to make records, and give praise to the students and the group who have performed particularly well. Finally, teachers should organize students to conduct self-reflection. Students can reflect on their own performance, especially the thinking process, in order to find gains and deficiencies by referring to the KWL chart. At the same time, teachers themselves should also reflect, review the process of task design and execution, and make records for revising their teaching plan.

Post class step

——Reflection and revision

After class, students digested all the information they had learnt in the class, and rethought about the thinking process and skills used in the tasks for better achievements in the next class. And teachers revised their teaching plans basing on their teaching reflection and teaching notes. The post class step is a summary of the knowledge content and thinking methods of the whole period of classroom teaching. The two-way reflection and adjustment from both teachers and students effectively improved classroom efficiency and promoted the development and improvement of students' critical thinking habits. Although this step is at the end of the entire teaching

model, compared with the first two steps, it may take the least time, but it is the most important and indispensable step. Timely reflection and adjustment can fundamentally improve our teaching model. Without it, our research may stop moving ahead.

Some of the detailed design of the teaching for Unit 1 are given below as examples:

Planning the teaching

With the new triple step teaching mode in hand, the teaching for Unit 1 Pursuit of Dreams in New Progressive College English Book I was planned. The following were my whole process of designing the teaching plan.

Pre-class

1) Time arrangement and tasks

According to the reading materials in unit1, the students' critical thinking ability in the questionnaire, and the teaching objectives, three teaching periods were arranged, and designed 20 tasks in proper sections. The group members were given the priority to assess each other after each task. And the teacher gave a total assessment to each student considering their own observation and the score from group members. The purposes of those tasks were to promote further understanding of the reading material and to train the students' critical thinking competence. In the bracket, I marked the ability from Bloom's taxonomy and Wen Qiufang's Hierarchical Model.

Task 1(remembering-inspection)

Watch micro-lesson and take notes on culture and background information.

Task 2(understanding-interpretation)

Work with your partner to deal with Opener, and find the answers to the three questions.

Task 3(understanding-identification)

Draw a Group KWL about this text.

Task 4(applying-clarification)

Group presentation to introduce the hero, using the way you have learned in Task 1& Task 2 to introduce a person.

Task 5(understanding, analyzing and creating-planning, questioning, inference)

Group discussion: What questions would you design for understanding this text? Which part to you is difficult to understand most? And what questions would be asked to help the understanding? Make a question list for other groups.

Task 6(understanding, analyzing-comparison, elaboration)

Group work: compare the chart in your book and the question list you made, and find

out the similarities and differences. Then finish the chart and question list from another group.

Task 7(analyzing ,evaluating-differentiation, elaboration, evaluation)

Group discussion for key words and expressions and share your answers with other groups. Try to combine the answers from all groups and pick out the most proper one.

Task 8(remembering, understanding-clarification, adjustment)

Write down your answers and put them in the written file.

Task9(applying-elaboration)

Work in groups to retell the text using the key words.

Task 10 (understanding, analyzing-clarification)

Group work: Each group can show the questions they designed for understanding the text, and others try to answer those questions.

Task 11(creating-conclusion)

Work in groups to discuss the main idea and draw a mind map

Task 12(understanding-multiple skills)

Work with your group and finish to the exercises.

Task 13 (all-inference, assumptions, hypothesis, evaluation, interpretation)

Group discussion: Why did the author arrange the story in this way? Is it reasonable and can bring an expected outcome? In what kind of situation will you apply this kind of structure?

Task 14 (evaluation-evaluation, comparison, conclusion)

Reflect on your KWL chart.

Task 15 (understanding-inspection, questioning, inference)

Scanning for understanding.

Task 16 (remembering, understanding- inspection, questioning, inference)

Skimming for understanding.

Task 17 (understanding, analyzing-elaboration, inference, conclusion)

Viewing and filling the blanks, then reading in pairs.

Task 18 (applying, creating-planning, adjustment, assumption)

Role-play to do a TV interview.

Task 19 (understanding, creating- hypothesis)

Read the poem and record it with background music.

Task 20 (understanding, creating-planning, conclusion, comparisons, inspection)

Writing with at least one of the skills you have learnt in this unit.

2) Assessment criteria

After designing the task, two assessment criteria were designed, one of which is used for peer evaluation in the group for students, and the other for teachers, which is used for comprehensive evaluation of students. Because students have limited understanding and observation ability of evaluation, the evaluation criteria for students are more intuitive and involve fewer aspects, which is convenient for students to make quick evaluation. The evaluation criteria used by teachers are relatively complicated with more dimension than peer's, but the overall evaluation rules are based on Wen Qiufang's Hierarchical Model. And the two are shown below:

Table3- 6 Assessment table (Tingting Wang, 2021)

Assessment Criteria for Teacher					
Clarity		Curiosity		Remembering	
Relevance		Openness		Applying	
Logic		Self-confidence		Analyzing	
Depth		Integrity		Evaluating	
Flexibility		Perseverance		Creating	

Assessment Criteria for Peers		
Self-confidence	A.Good B.Fair C.Poor	
Involvement	A.Good B.Fair C.Poor	
Clarity	A.Good B.Fair C.Poor	
Convincing	A.Good B.Fair C.Poor	
Attitude	A.Good B.Fair C.Poor	
Cooperation	A.Good B.Fair C.Poor	

3) Critical thinking skills related

On account of the teaching content and tasks in this unit, meta-critical thinking competence was chosen to be the teaching focus of critical thinking skills. As in Wen Qiufang's Hierarchical Model, meta-critical thinking competence contains four sub skills, and they are planning, inspection, adjustment and evaluation. And those skills were elaborated to the students before the teaching of the main reading text, and some focused training was carried out at the meantime to ensure that when the students

were dealing with the tasks in the main reading text, they had already known some basic information about planning, inspection, adjustment and evaluation.

4) Possible barriers

Because the text in this unit is narratives written in the first person, it is easy for students to be brought into context by the author when they were reading the text, and their emotions and opinions may be influenced by the author of the article. This was the first barrier the teacher encounters when giving lectures. In order to overcome this obstacle, teachers should bring students out of the context of the article at an appropriate time and encourage students to use an outsider's perspective to interpret the experience of the protagonist. In the specific operation, the teacher can ask the students to rewrite a certain paragraph in the third person narrator. It can not only serve language teaching objectives, but also help students form critical thinking habits. In this way, students can learn to see things from various standpoints which is one of the correct ways to critical thinking.

For this new teaching model, students may feel very unfamiliar. Compared with the previous teaching model, the classroom teaching progress will be affected. In response to this possible obstacle, when preparing lessons, the researcher specially added two teaching periods to the first unit to allow students to adapt to this teaching mode. At the same time, the completion time of each task is relaxed, the students' sense of pressure on time is reduced as much as possible, so that they can be encouraged to complete the task. In addition, to prevent students from being forced to perform mechanical exercises without critical thinking awareness, we let students realize that critical thinking training is necessary, and it is a long-term plan, not a temporary one.

Students do not have a good grasp of critical concepts and will quarrel during group discussions. This was the biggest obstacle that may be encountered in the teaching process at this time. In order to avoid this problem, students need to understand what critical thinking is, whether all disputes are the embodiment of critical thinking, and how to conduct their own critical thinking and peer critical thinking properly. Arguing for the sake of argument is a form of formalism and a waste of time. In addition, students should be taught how to politely and effectively express their opinions and prove their opinions when they disagree with others' opinions. A person's critical thinking is relatively simple, while the training of critical

thinking in groups is somewhat difficult. It not only requires the team members to fully understand the concept of critical thinking and master certain critical thinking skills, but also requires the team leader and teachers to have certain organizational, leadership and decision-making skills.

Group discussions are difficult to carry out. In the process of group discussion, students were lack of understanding of each other. Teachers encouraged students to express themselves, and strived for group members to form a tacit understanding and unite firmly for better cooperation in future group activities. When the group leaders assign the sub-tasks for their group members, the group leaders should arrange suitable small tasks according to the characteristic of each group member, so as to give full play to the strengths of all team members and maximize the efficiency of group learning. For instance, the group leader asked a group member who had the largest amount of vocabulary to offer help for other group members when they had difficulties in new words.

5) Expected outcome of teaching

After the teaching of this unit, students were expected to obtain both reading objectives and critical thinking objectives, including:

1. To enable students to have a though understanding of the text contextually;
2. To enable students to build up an active vocabulary to talk about the pursuit of dreams and know how to use the key words and expressions in context properly;
3. To enable students to get the meta- critical thinking competence;
4. To help student begin the habit of critical thinking in and after the class.

During class

1) Warming up activity and KWL chart

Since students were asked to watch the Micro-lesson and finish the Opener before class, they gave their group presentation according to the background information in the Micro-lesson and the way for introducing person in Opener. And each student was asked to draw a KWL about this text. The teacher asked some of the students to share their chart and in this way the teacher can clearly know the students' learning background. The KWL chart was created by Donna Ogle in 1986. It is a chart of three columns. K stands for Know, so K column is the space for learners to write down the things they have already known (What I know); W stands for Want, so W

column is supposed to show the thing they want to know (What I want to know); and L stands for Learn, so L column is the place for to write down the thing they have learned (What I learned). This KWL chart can activate students' prior knowledge of this unit and can help them set a goal of learning. Finally, It can help students recall what they have learned in this unit, summarize them, and evaluate whether they have achieved their learning goals or not.

2) Elaborating and practicing the meta critical thinking skill

Teachers were asked to use some online resources for elaborating the meta critical thinking skill to students, and carry out some practice for training.

The following steps of planning are presented in the teaching plan.

3.9 Ethical considerations

This study activity was took place in Changchun, China. There is no specific local guidelines involve the ethical stipulations beyond those usual in the UK. So what was needed to do was to carry my research under the BERA ethical guidelines for educational research, fourth edition (2018). This research was conveyed under the BERA ethical guidelines for educational research, fourth edition (2018). Taking Covid-19 into consideration, some interviews were taken through Skype.

Obtaining consent

Firstly, this research was introduced to the supervisor of English language institute of the research university. Explain the rational and necessity of this study to her and ask for her permission to carry the Action Research in her institute. With the permission of the supervisor, all the potential participants what I was going to do in the research were informed, why their participation was important for me, what they would be asked to do, what would happen to the information they provide, how the information would be used and how and to whom it would be reported. All the potential participants who volunteered to participate in this research were given an information sheet and a consent form. Then they read through the information sheet and signed the consent form.

Confidentiality and Anonymity

Student participants were asked to take questionnaires anonymously. In tests for critical thinking abilities, numbers were used to represent student participants to

protect their privacy. To notice the change in their level of ability, each student used the same number in all the tests. When collecting scores of reading comprehension part in their final examinations, numbers were also used to represent students instead of names. And in interviews, they were not asked for names. No real name of participants was included in the dissertation. All the data was collected anf analysed by myself and keep them in my password protected PC.

Participant selecting

My participants were 2 English teachers who teach non-English major college students and 180 students within which there were 90 Science students and 90 Arts students. And they are all over 18. There are 56 teachers in the English department and 43 are female teachers. And the researcher knew more about those female teachers because they had a closer relationship. Among those female teachers, the ideal teacher participants should be teachers who are neither too young with little teaching experience nor too experienced with no desire for changing their teaching habit. The two teachers were chosen by the researcher under the above consideration and the students participants were assigned to those two teachers randomly by the university system.

Information for participants

In the information sheet which I provided to the potential participant, the researcher briefly introduced the research and describe the main research procedures to them, so that they were informed about what to expect. And they were told that they had the absolute freedom to decide whether they would take part in this study or not. If they refuse to take part in it, their education will not be affected. In addition, it was made clear that, the data of questionnaires, tests, exams, interviews and classroom observations would be collected if they consent, and the written consent form would be kept by myself. They were also informed that even though they have signed the consent form, it is their right to withdraw from this study at any time and for any reason, and in questionnaires and tests, they would be given option of omitting questions they did not prefer to answer. The most important thing informed was that their data would be treated with full confidentiality and if published, it would not be identifiable as theirs. All participants were not paid for their participation and there were no financial or other interests to the investigator or university arising from this study. All the research activities did not involve misleading for participants in any way.

Anticipated risk

For student participants, when asked for the feedback of new teaching approach in interviews, students may worry that their negative feedback would make their teacher upset which may bring harmful impacts to them. Facing with this risk, when designing the questionnaire and interviews, questions that would bring negative impact or indication to participants were strictly avoided. And when asking for the shortages and suggestions to improve the new teaching approach, those were put in anonymous questionnaire. In interviews, student participants were asked what effective strategies they thought work best on them. Further more they were informed that all the data was kept confidential and the students were signposted to the welfare officer in the university when they had emotional distress. The interview can be stopped at any time when the participants do not want to continue with our discussion, and deleted part of the recording as they wanted to.

For researcher, when interviews take place, it is not safe to do person-to-person interviews outside the university. So the researcher carried all interview in the free chatting area of the library in the research university to avoid being alone with student participants.

For the research university, the researcher avoided using public computer but use personal laptop with password to make sure that the research data would not be leaked or lost.

Data

All the original paper data was locked in my drawer. The extracted data was anonymous and was stored in my laptop and password protected. All participants were given a number to ensure confidentiality and this list was kept securely in the password protected folder in my personal laptop. Audio data of the interviews was transcribed and was shown to participants to check accuracy of reporting. When communicate with my supervisor and course director, school email was used and also put password to the attachments. The data was stored until the completion of this study and then deleted. In accordance with the DPA2018, participants had the right to ask to see what data was held relating to them, and this data was deleted immediately when the participant requests this, in which case the data was not used in this study.

3.10 Reliability and validity

Joppe (2000) defines reliability in quantitative research as: The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable.[①]

If we deal with a stable measure, the results should be similar. Or in another word, the results are repeatable. The researcher has the responsibility to assure the reliability of their instrument. In order to reach that goal, the research has to demonstrate the reliability of their score in the research instrument, to prove the experiment repeatable and therefore reliable. It is not difficult for achieving reliability; however, the instrument may not be valid.

Joppe (2000) provides the following explanation of what validity is in quantitative research: Validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are. In other words, does the research instrument allow you to hit "the bull's eye" of your research object? Research generally determines validity by asking a series of questions, and will often look for the answers in the research of others.[②]

In a word, with regards to reliability, whether the result is replicable. And with regards to validity, whether the means of measurement are accurate and whether they are actually measuring what they are intended to measure.

Reliability and validity in quantitative research mainly concerns measurements while in qualitative research, we focus more on the process and products. Seale (1999) endorsed to use the word "Trustworthiness" for the reliability and validity in qualitative research. In achieving this, the researcher carried credible research process following the action research stages, take a neutral standpoint, get consistent and first-hand data, make objective analysis on the data with thematic analysis method, provide dependable results, and give applicable suggestions and obtain transferable achievements.

[①] Nahid, G. 2003. Understanding Reliability and Validity in Qualitative Research. The Qualitative Report Vol.8. University of Toronto, Ontario.

[②] Nahid, G. 2003. Understanding Reliability and Validity in Qualitative Research. The Qualitative Report Vol.8. University of Toronto, Ontario.

3.11 Summary

Action Research was adopted as the main methodology in this dissertation to evaluate the efficiency of the new teaching mode Teaching Trilogy which contains three core steps in teaching. When carrying the Action Research, the researcher followed the rules of feasibility and dynamicity. The teaching procedure and tasks were not fixed, instead the researcher and the teacher participants can make adjustment and optimize the mode based on their teaching practice. Both deductive approach and inductive approach were used in this search. And both quantitative and qualitative data were collected. With data in hand, SPSS was adopted as a tool to analyze quantitative data, while the thematic analysis was used to dealing with qualitative data. There were four stages in the Action Research, which is to clarify the research targets, articulate the main theory, implement Action Research, and reflect on the data for future teaching practice. The whole teaching mode was illustrated in this section with some key steps. And way of data collection was described in detail. Finally, the ethical consideration practice was clearly elaborated and emphasized at the end if this chapter.

Chapter 4 Data Analysis and Findings

This chapter mainly presents and analyzes the data of observations, questionnaires, CCTDI-CV tests, exams and interviews. The key points from observation notes before the research, during the research were generalized. The interview data was transcribed and the key things worth mentioning were shown. Questionnaire data of pre-test and post-test were also analyzed through tables and made comparison. The correct rates of the last two final exams were calculated and made comparison, too. The scores of CCTDI pre-test and post-test were presented and contrasted. It reveals the critical thinking barriers and also shows the effects of the new teaching mode---Teaching Trilogy which reviewed in chapter 2.

4.1 Questionnaire data analysis

Questionnaire design

This first section of the chapter reports the data of the 360 questionnaires, among which 180 from pre-test and 180 from post-test. These findings address the first two research questions: why is it important to improve participants' critical thinking skills? And what are the benefits participants can get from critical thinking skills in English reading class?

The pre-test Questionnaire was designed to find out the problems of current college participants and the reasons behind these problems through the status of participants in college classrooms, especially college English intensive reading classes, and it was taken before the implementation of the new teaching model. Post-test Questionnaire was taken at the end of the semester with the experiment of the new teaching mode, and the content was the same as that of pre-test questionnaire. The purpose of post-test questionnaire was to find out the changes of participants' class status and the changes of thinking habit under the new teaching mode. By comparing the data of the two questionnaires, the research can consider the effectiveness of the new teaching model in improving the classroom teaching effect of college English intensive reading and in promoting participants' critical thinking. The sample size was 180 participants and SPSS22.0 and Python 3.0 were used for data analysis. Chi-square test was conduct to test some of the questionnaire data and T-test was carried out to test exam data.

In the questionnaire, each question was served to answer certain research

questions. The detailed information was in the following figure.

RQ1.Why is it important to improve participants' critical thinking skills?

Table4-1, Table4-2, Table4-3, Table4-6, Table4-7, Table4-8, Table4-18

RQ2.What are the benefits participants can get from critical thinking skills in English reading class?

Table4-4, Table4-6, Table4-7, Table4-8, Table4-10, Table4-12, Table4-13, Table4-14, Table4-15, Table4-16, Table4-18, Table4-20, Table4-21, Table4-22

RQ3.What strategies are efficient and effective for training participants' critical thinking ability?

Table4-5, Table4-9, Table4-17

RQ4.How are participants' critical thinking abilities developed through the research?

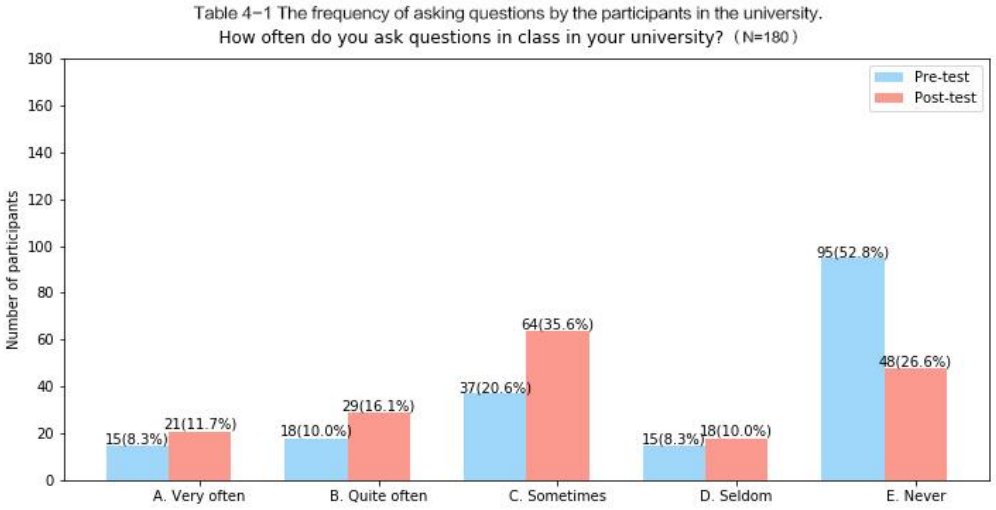
Table4-6, Table4-7, Table4-8, Table4-11, Table4-13, Table4-14, Table4-18, Table4-19, Table4-20, Table4-21, Table4-23

RQ5.Can those teaching approach help participants have further understanding of the reading materials?

Table4-4, Table4-10, Table4-12, Table4-13, Table4-14, Table4-18

The contrast of pre-test questionnaire data and post-test questionnaire data

Table4- 1 The frequency of asking questions by the participants in the university.

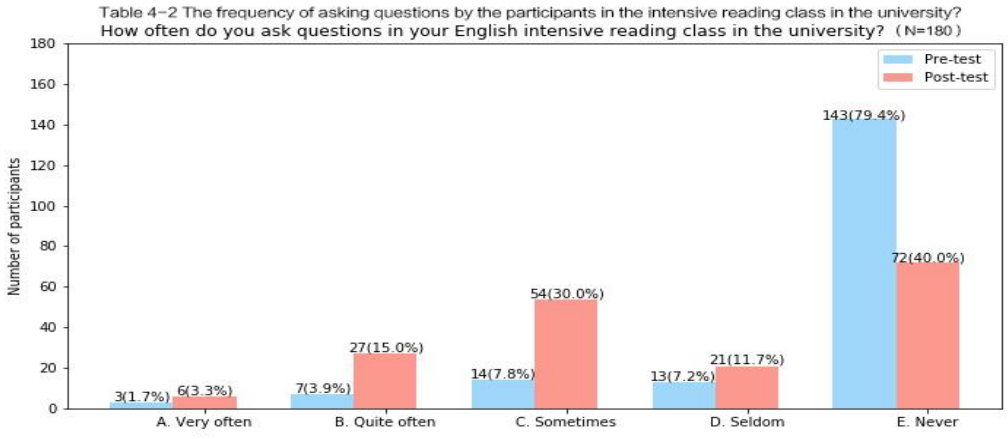


This question in the pre-test was to know: how often participants ask questions throughout the college class despite language barriers. Compared with middle school classrooms, the knowledge learned in university classrooms was more complex and esoteric, but teachers' lectures were more general due to the limitation of teaching time. In this case, students should be more prone to have problems than in the middle school classroom, however, surprisingly, in the pre-test, only 8.3% of the participants chose very often; 10% of the participants chose quite often; and 52.8% of the participants never asked questions. This question in the post-test was to test whether the critical thinking training in the college English intensive reading class can promote the development of participants' critical thinking habits and be unconsciously

used by participants in classrooms of other subjects. By comparing these two sets of data, it was not difficult for the researcher to see that the frequency of participants asking questions in all subject classrooms had increased slightly. Participants who asked questions very often raised 3.3%, quite often went up 6%, sometimes had the biggest boost, from 20.5% to 35.6%, seldom had a small climb, only 1.7%. What made us relieved was that participants who never ask questions in class had a drop of 26.1%, from 52.8% to 26.7%, which indicated that more students can give actively express their puzzles in learning.

No matter in the pre-test or in the post-test, the number of people who chose sometimes and never was relatively large. In other words, most of the participants in the test either occasionally asked questions or never asked questions. This phenomenon was common in China. As KeJin unpacked in the article *Why college students suffer from classroom silence,* the main reason for the current silence in college classrooms was that there were problems with many college teaching models, but the traditional education model and the test-oriented education system still had strong inertia. [①]After all, only a small number of participants dare to ask questions. These two options were also the ones with the largest increase and decrease, which gave the researcher hope. Judging from the data, the increase of the seldom option was only 1.7%, so we believed that almost all of the increase in the sometimes option came from the never option, which showed that the critical thinking training in college English intensive reading courses had mobilized participants' thinking, and this change was reflected in the rest of the university's classrooms.

Table4- 2 The frequency ofasking questions by the participants in the intensive reading class in the university?



[①]Ke, J. 2007. Why college students suffer from classroom silence. China Education News.2007-06-05.

This question was similar with question 1, however, was focused on English intensive reading class. The first two questions were designed to investigate whether participants did not ask questions because of language problems or because of habitual reasons. Only 3 participants chose very often in the pre-test, which occupied 1.7% of the participants. In the post-test, the number doubled, but 6 participants out of 180 was still so small in amount. Compared with the pre-test, in the post-test, the number of participants who chose B and C increased the most. Among them, the participants who chose B increased 11.1% from 3.9% to 15%, and the participants who chose C increased 22.2% from 7.8% to 30%. The number of participants who chose these two options had almost quadrupled, indicating that the number of participants who started to ask questions in English class had increased. The sum of the first three options reached 48.3% (3.3%+15%+30%), which means that under the Teaching Trilogy mode, nearly half of the participants could take the initiative to ask questions in the college English intensive reading class. The number of participants who chose D also increased 4.5% from 7.2% to 11.7%, while the number of participants who never asked questions dropped 39.4%, from 79.4% to 40%, which was reduced by half. While 72 was still a large number, which showed promise in the new teaching model.The frequency of asking questions is influenced by the emotional state of the students. The next finding reports on this.

Table4- 3　Emotional Tendency of participants to college English Intensive Reading Course.

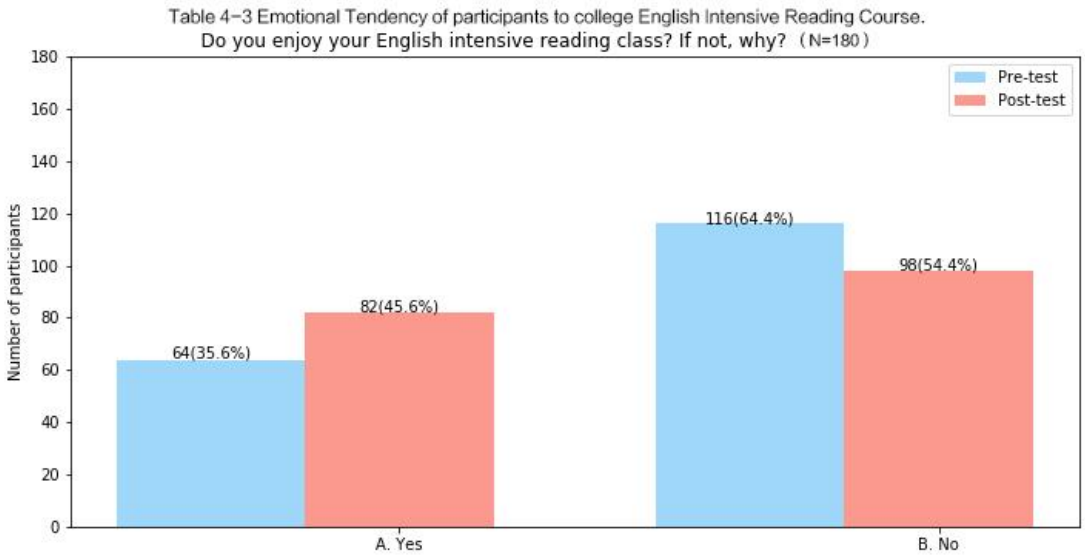


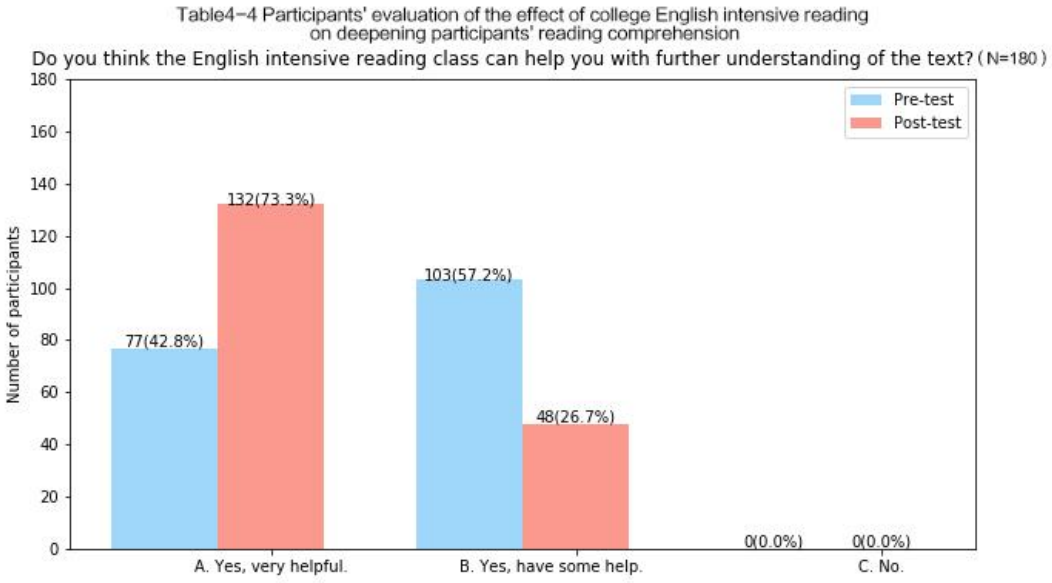
Table4-3 配对样本检验(Matched samples t-test)

		实际值 f_o	理论值 f_e	$(f_o-f_e)^2/f_e$	χ^2	差值 95% 置信度 1-α	自由度 df	显著性 Sig
配对 1	A	82	64	5.0625	7.8556	3.841	1	0.0051

(If p>0.05,insignificant; if 0.05≥p＞0.01, significant; if p≤0.01, extremely significant.)

In pre-test, 35.6% participants enjoyed English intensive reading class and 64.4% did not enjoy it. In post-test, the number enjoyed it raised 10%, and the number did not enjoy dropped 10%. The result of Chi-square test showed that p=0.0051, p<0.05, which indicated significant change in the two tests. It showed that the new teaching mode did not have so much influence in changing participants' attitude towards English. Or in another word, the Teaching Trilogy cannot greatly promote the interests of having English intensive reading class. The potential reason to this will be discussed in next chapter. And the next question was to dig out possible reasons for those students who didn't like English intensive reading class.

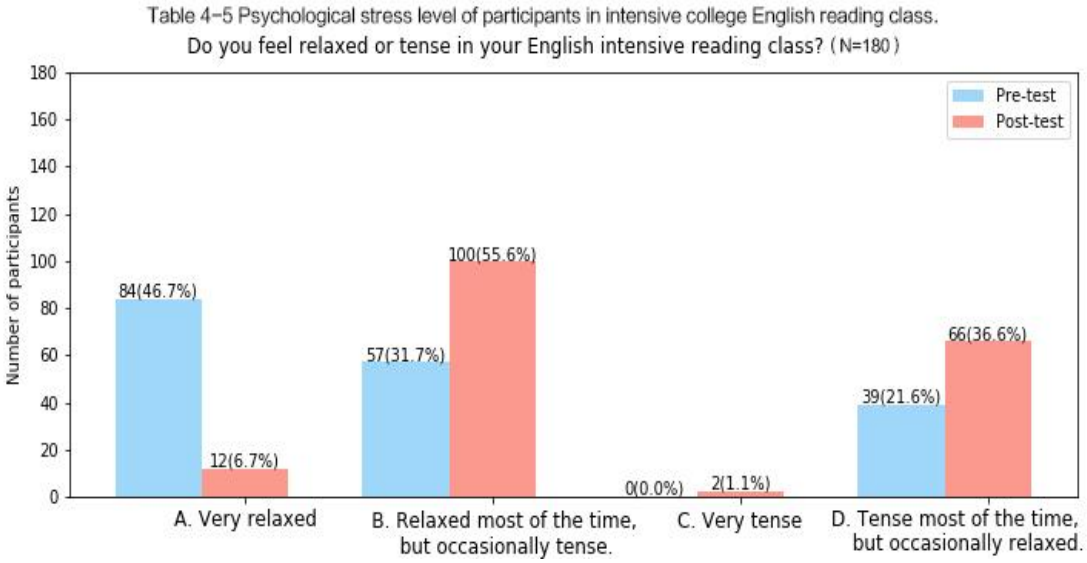
Table4- 4 Participants' evaluation of the effect of college English intensive reading on deepening participants' reading comprehension



Compared with the number in the pre-test, the number of participants choosing Very helpful had 30.55% growth, from 42.8% to 73.3%, and the number choosing Having some help had declined 30.5%, from 57.2% to 26.7%. 30.5% participants

changed their option from Some to Very. The new teaching mode had shown some effects in participants' understanding of the texts. As English teachers, we should feel happy to see that in the two tests, not any participants chose No, which means all the participants committed the positive function of English intensive reading class. However, it may because of demand characteristic and may not be the real answer.

Table4- 5 Psychological stress level of participants in intensive college English reading class.



Participants chose Very relaxed had dropped 40%， from 46.7% to 6.7%. 40% participants had lost their ease in the new teaching mode. The participants felt relaxed most of the time, but occasionally tense had increased 23.9%, from 31.7% to 55.6%, which indicated that much more participants felt pressure in English intensive class under the new teaching mode. It was not easy to believe that in the pre-test, no one feel tense in class, while only 2 (1.1%) participants felt tense in the post-test. Participants felt tense most of the time but occasionally relaxed had climbed 14.9% from 21.7% to 36.6%, which also showed that more participants got tense under the new teaching mode. The trend in this table clearly indicated that the nerve of the participants in English intensive class has somehow tensed by the new teaching mode.

Table4- 6 Opinions of participants on whether it is correct to listen and fully accept the teacher's analysis about the texts.

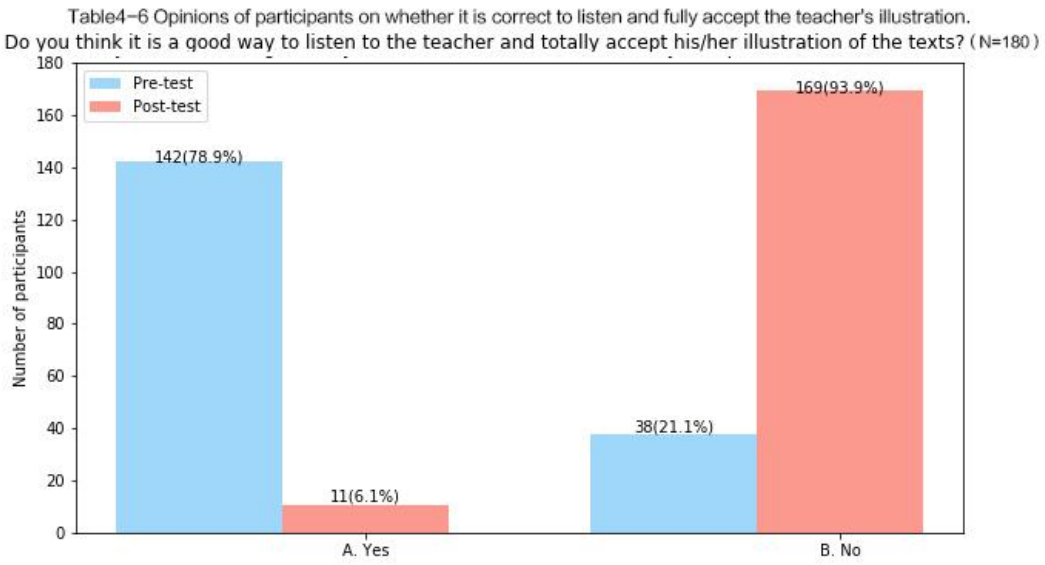


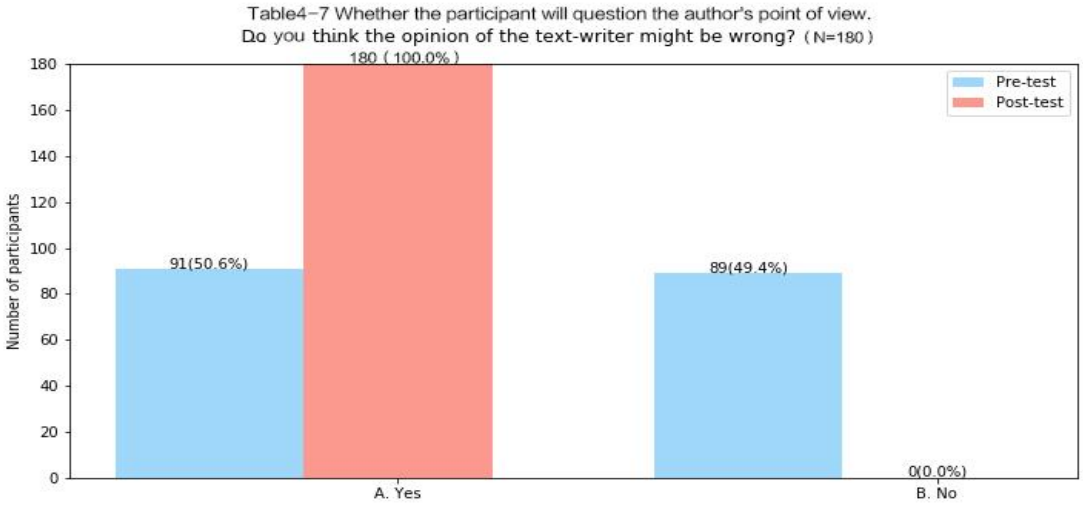
Table4-6 配对样本检验(Matched samples t-test)

		实际值 f_o	理论值 f_e	$(f_o-f_e)^2/f_e$	χ^2	差值 95% 置信度 1-α	自由度 df	显著性 Sig
配对 2	A	11	142	120.8521	572.4574	3.841	1	1.6397e-126
	B	169	38	451.6053				

In the pre-test, there was only 21.1% participants thought that they had to accept the teacher's illustration totally, while 78.9% participants believed that their teacher's illustration was absolutely correct. From the data, we can infer that most of the participants in the classroom trust their teacher so much, and they hold the opinion that it was a good way to listen to the teacher rather than think about it by themselves. Teachers were seen as encyclopedia in their professional field. It is expected that Teaching Trilogy would affect the way participants think, but unexpectedly, such a large percentage of participants were affected. In the post-test, those who chose Yes dropped to 6.1%. Among the 180 participants, only 11(6.1%) still believed that the teacher's explanation was totally right, and the number of participants who refused to accept the teacher's explanation rose 72.8%, from 21.1% to 93.9%, it had more than quadrupled. Through one semester of study, 131(72.8%) participants changed their minds. We'll discuss whether this was a positive or negative shift in the next chapter. In the Chi-square test result, p=1.6397e-126< 0.1, which indicated that there was extremely significant in the data changing. Such large number of participants had

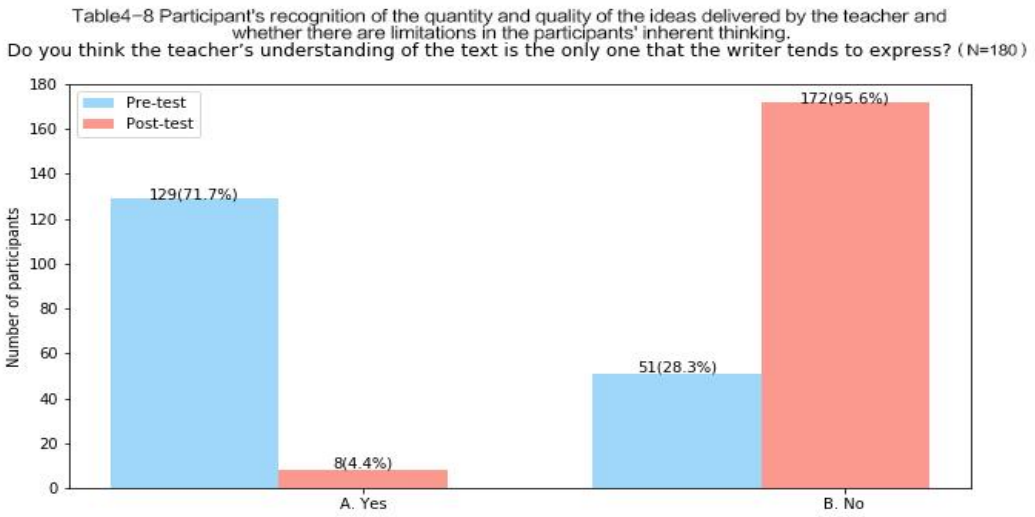
switched their own opinion toward the teacher’s illustration and it can be taken as one of the benefits from this study.

Table4- 7 Whether the participant will question the author's point of view or not.



In the pre-test, 50.6% of the participants believed that the writer's point of view in the reading material might be wrong. This percentage was beyond the research' expectations, not expecting so many participants in the pre-test to hold such a view. In the post-test, perfect data emerged, with all 180 participants agreeing that the author's point of view was not infallible. This shift was one of the goals of the study, which was to promote participants' critical thinking skills rather than viewing textbooks as bibles.

Table4- 8 Participant's recognition of the quantity and quality of the ideas delivered by the teacher and whether there are limitations in the participants' inherent thinking.



The question was similar with Question6 designed to test participants thinking habit or learning habit. In the pre-test, 71.7% participants thought that what the teacher explained was exactly what the writer intended to express. To contrast, in the post-test, the percentage had slipped to 4.4%, and only 7 (3.9%) out of 180 participants still chose Yes, and the rest 95.6% participants chose No who believed that the teacher's understanding might be part of the picture. Both the number and the percentage fluctuations to this question were very similar to Question 6, because the two questions examined the same point of view of the participants from different aspects. These two questions were also designed to ensure the validity of this questionnaire.

Table4- 9 Evaluation of participants on whether the discussions in the College English Intensive Reading class were helpful.

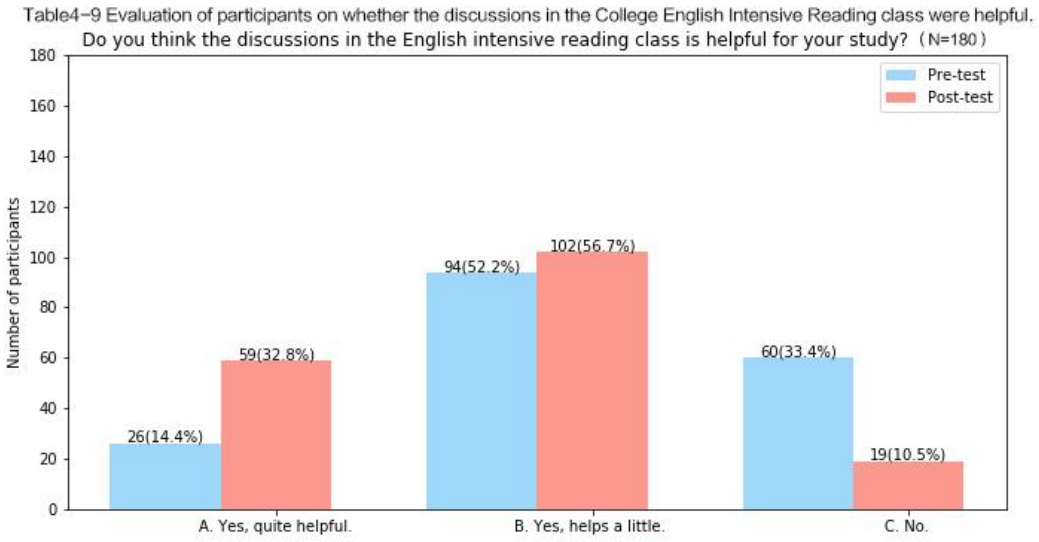


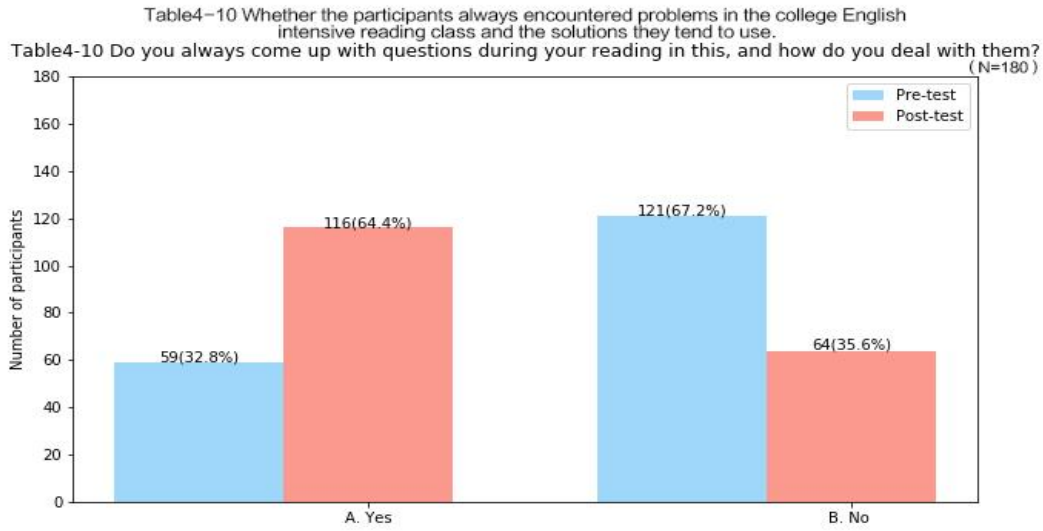
Table 4-9 配对样本检验(Matched samples t-test)

		实际值 f_o	理论值 f_e	$(f_o-f_e)^2/f_e$	χ^2	差值 95% 置信度 1-α	自由度 df	显著性 Sig
	A	59	26	41.8846				
配对 3	B	102	94	0.6809	70.5821	5.991	2	4.7129e-16
	C	19	60	28.0167				

In college English intensive reading class of the research university, almost every class had a discussion session. In the pre-test, only 14.4% of the participants hold the opinion that the discussions in the college English intensive reading class were helpful

to their study, while more than half of the participants (52.2%) thought the discussions were somewhat helpful, exactly one third (33.3%) of the participants thought the discussion was not helpful at all. Of course, the effectiveness of the discussion was affected by many factors such as the content, method, time point, and the discussants themselves, so the data in the pre-test cannot directly reflect the problem in the class teaching and participants' thinking. In the post-test, 32.8% of the participants thought the discussion was helpful. Although this value was doubled from the pre-test, due to the small base, the actual increase was only 33 participants. The number of participant who felt that there was some help increased 8; and the number of people who felt that it was not helpful reduced 41 participants, and only 10.6% of the participants still felt that the discussion did not help their learning. The new teaching mode was based on task-based teaching. The tasks of each unit were almost carried out in the form of student-student discussions, group discussions, and teacher-student discussions. The design of tasks was also targeted. According to the data, although, 22.7% of the participants were positively affected by the college English intensive reading class, the effect was not as good as expected. The specific reasons will be discussed in the next chapter. When the data was run by Chi-square test, the p=4.7129e-16, which is smaller than 0.01 so the change in this question was extremely significant. Throughout the whole semester, students began to get involved in the discussions in class so that they gradually recognized the imperative role of discussion in their study.

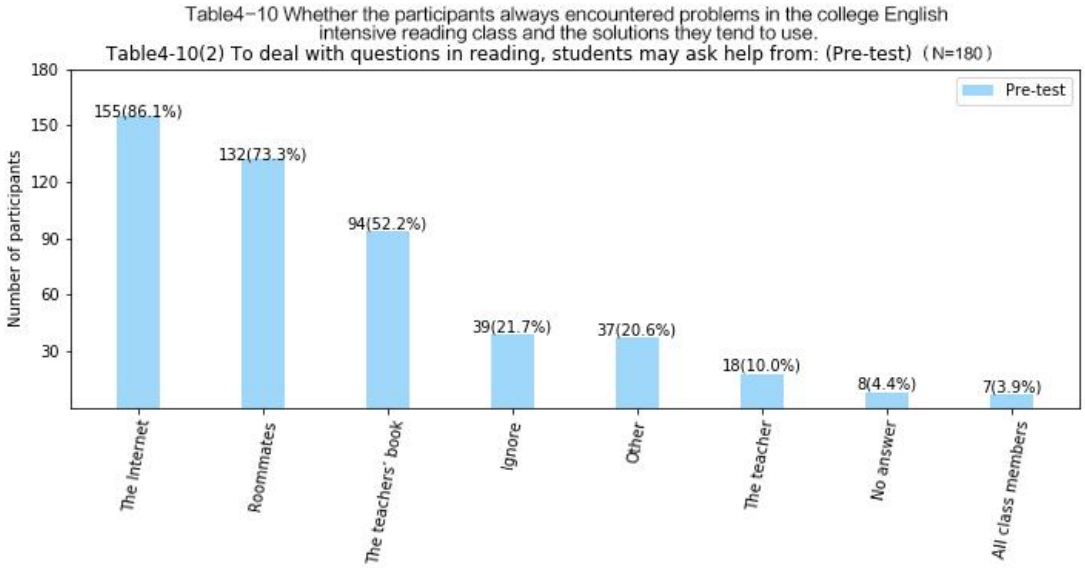
Table4- 10 Whether the participants always encountered problems in the college English intensive reading class and the solutions they tend to use.

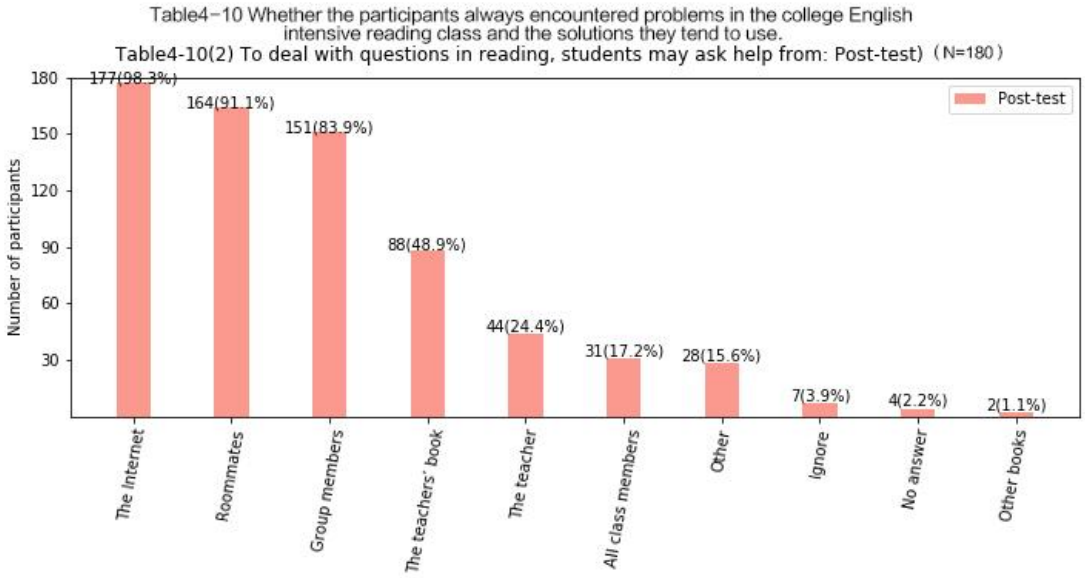


The college English intensive reading textbooks selected by the research university were textbooks for training participants' critical thinking. Therefore, the texts presented in the textbooks were challenging to a certain extent. In other words, the reading materials were difficult for participants to understand. In the pre-test, less than one third of the participants often encountered problems in their reading, only 32.8%, and the remaining 67.2% of the participants did not encounter problems that often. In the post-test, the participants who frequently encountered problems doubled to 64.4%, a fluctuation that was reassuring to the research because most of the participants had the ability to spot problems and think while reading. The remaining 35.6% of participants in the post-test had infrequent problems, which was cut in half compared to the pre-test, from 121 participants to 64 participants. These participants mainly included three types, those who were very smart and had no problems, those who encountered problems but not so often, and those who cannot think properly and cannot detect problems.

When encountering problems, participants mainly used the following methods to solve them both in the pre-test and post-test: in the pre-test, 4.8% participants who chose A seek help from teachers during or after class, 80.9% from the Internet, 2.3% from their classmates, and 12% even gave up seeking answers. After a semester’s training, the number of participants who asked for help from the teacher dropped to 2.1%, and the number of participants who asked for help from the Internet also dropped to 53.2%. More participants chose to seek help from their classmates which was the usual process. This group of participants had rose 41%, from 2.3% to 43.3%, while the participants who chose to give up were almost disappeared; only 1.4% remains. This was one of the great changes brought about by Teaching Trilogy. Due to the increase in the quantity of tasks including discussion within and between groups in the classroom, the training of critical thinking had increased, and there were more opportunities for exchange of ideas among classmates. This was the research gains beyond the target.

Table4-10(2)





The above table shows the way participants deal with questions which was the second half of the question. It was an open-ended question, so many of the participants gave out more than one answer. Since lots of different answers were given by the participants, here we can only list the 5 ways that frequently mentioned. In the pre-test, the number of people who asked for help from the internet was the largest, reaching 86.1%. With the development of digital technology and the popularity of smart phones, participants seeking answers through the Internet had become the most convenient means of solving problems. The number of participants who asked for help from roommates ranked second, accounting for 73.3%. 6 participants shared a dormitory in the universities under research, and these 6

participants were generally participants of the same major and the same class. They had the same study content, so it was more convenient to ask for help from participants in the same dormitory. 21.7% of the participants simply ignored the question without doing anything. 52.2% of the participants would ask for the Chinese translation of the text in the teacher's book. 10% of the participants admitted that they would ask the teacher for help after class, and 3.9% of the participants would ask questions in class when the teacher explained the corresponding paragraph.

In the post-test, the number of participants who asked for help from the Internet increased from 86.1% to 98.3%, so almost all the participants who gave answer chose to ask for help from the Internet. After a semester of critical thinking training, why were more participants turning to the Internet instead of thinking by themselves? In the interviews, we got some possible answers. The number of participants who asked their roommates for help rose 17.8% and researched to 91.1%, and more participants dare to ask their roommates for help. The participants who chose to ignore the problem dropped from 21.7% to 3.9%, indicating that there were not many participants left who were lazy to think. The number of participants who asked for Chinese translation of teachers' books decreased slightly, only 6 people, or 3.3%. Although we do not encourage participants to use the teacher's book, the teacher's book can only provide answers to the exercises in the book except for translation, and there was no answer to the certain problems that participants encounter when reading. Participants may use this reference book to better understand the literal meaning of the text so that they can analyze the deep problems they encounter. The number of participants who asked questions in class increased 13.3%, from 7 (3.9%) to 31 (17.2%). Although this growth rate was not as expected by the researcher, it can also reflect the classroom effect of this semester, that is, more participants dare to put up questions, and even in public. To the delight of the research, in the post-test, there were answers that did not appear in the pre-test, that is, two participants said they would seek answers from other books. Unlike looking for digital resources on the Internet, the emergence of this answer means that some participants have begun to read paper materials, which was the beginning of finding literature. Although it will take participants more time, the process was a real learning process and the beginning of scientific research. In addition, another new answer appeared in the post-test, which accounted for a large proportion, which is, asking help from group members. 151 (83.9%) participants mentioned this way of solving problems, and we have to

admit that this was the positive impact of group task-based teaching. In the past semester, participants had to complete multiple tasks in groups in each class. In this way, they gradually formed the habit of group discussions. During the discussion, it was natural to ask questions and share them.

Table4- 11 Whether the teacher-led activities can motivate the participants to participate in the classroom in the college English intensive reading class.

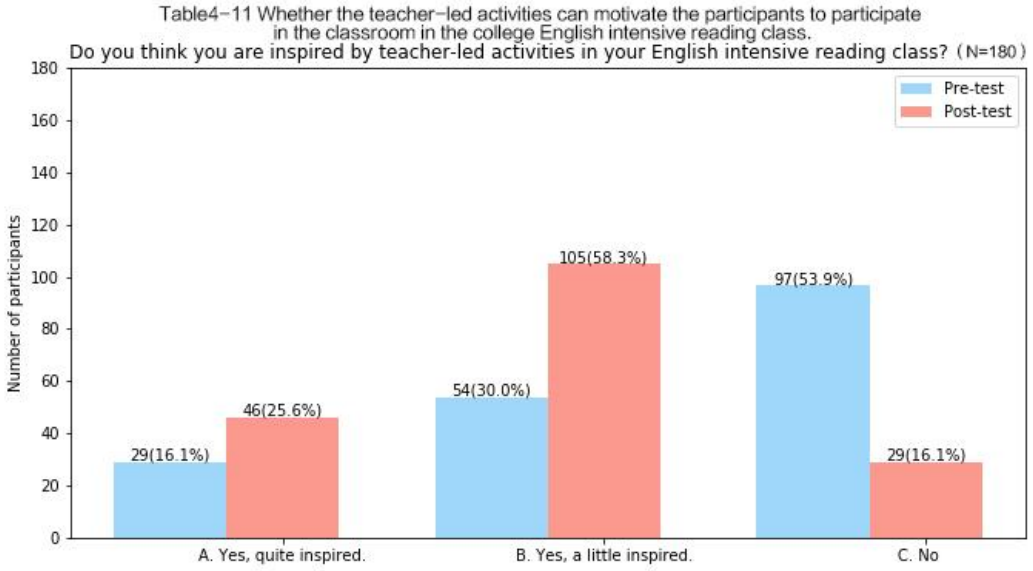


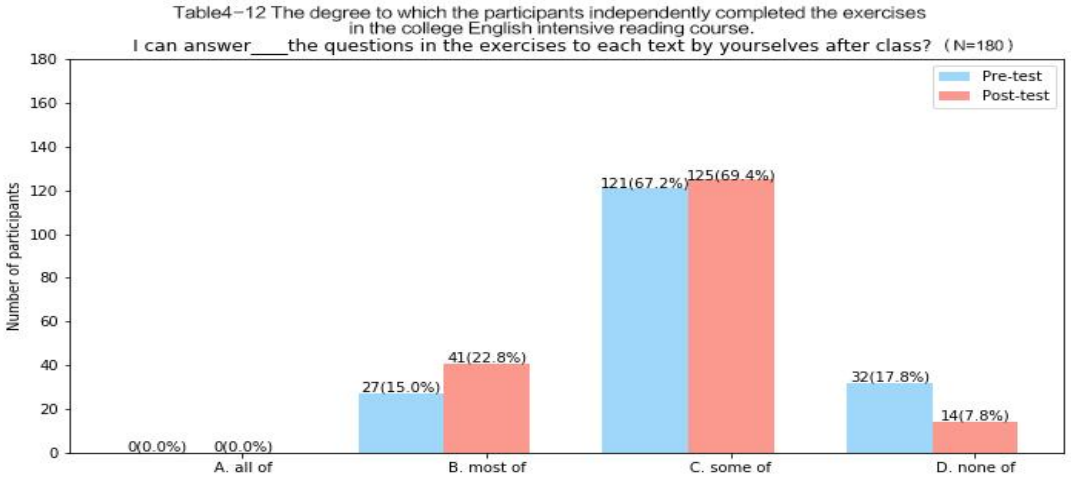
Table4-11 配对样本检验(Matched samples t-test)

		实际值 f_o	理论值 f_e	$(f_o-f_e)^2/f_e$	χ^2	差值 95% 置信度 1-α	自由度 df	显著性 Sig
配对 4	A	46	29	9.9655	105.8023	5.991	2	1.06e-23
	B	105	54	48.1667				
	C	29	97	47.6701				

The data collected on this question also made the researcher felt the influence of this new teaching mode. In the pre-test, only 16.1% of participants were highly motivated by teacher-led classroom activities, which increased to 25.6% in the post-test. The biggest increase was among participants who chose B, which nearly doubled, from 30% to 58.3%. In the post-test, 151 (83.9%) out of 180 participants were motivated by the activity, which means student's participation level had increased, and the classroom atmosphere must be improved. The more active they participated, the more they though, which was in line with the research goals of this study. The

participants who cannot be inspired dropped 47.8%, from 53.9% to 6.1%, in another word, 68 (37.8%) more participants had been inspired this semester. Why were 29 (16.1%) participants still not motivated by activities? The research believed there were several reasons for this. Firstly, English language ability factor. These participants have a poor English foundation and cannot understand the teacher's instructions in the classroom; or these participants may understand the instructions, or indirectly know the teacher's instructions from their classmates, but their language skills were not good and they dare not participate in activities. Secondly, character reasons. These participants were more introverted. Although they can think positively and have no problem with language, they were not good at communicating with others. Thirdly, the habit factor. Some participants were accustomed to passively accepting knowledge in the classroom, and others used to sleeping or being on their phones in class, so they did not really take part in the classroom learning. The result of Chi-square test showed that p=1.06e-23, which is smaller than 0.01, so the change is extremely significant. More and more participants' learning motivation were triggered by the activities in their English intensive reading class. Once they can accept the activities, they tried to take part in it. At first, they might be forced to do it, but later they became more willingly. As soon as they gained something from the activities, they began to join more activities voluntarily and actively. The participants' recognition of the positive effect of activities can switch passive learning to active learning, and that's one of the benefits participants can get from the Teaching Trilogy.

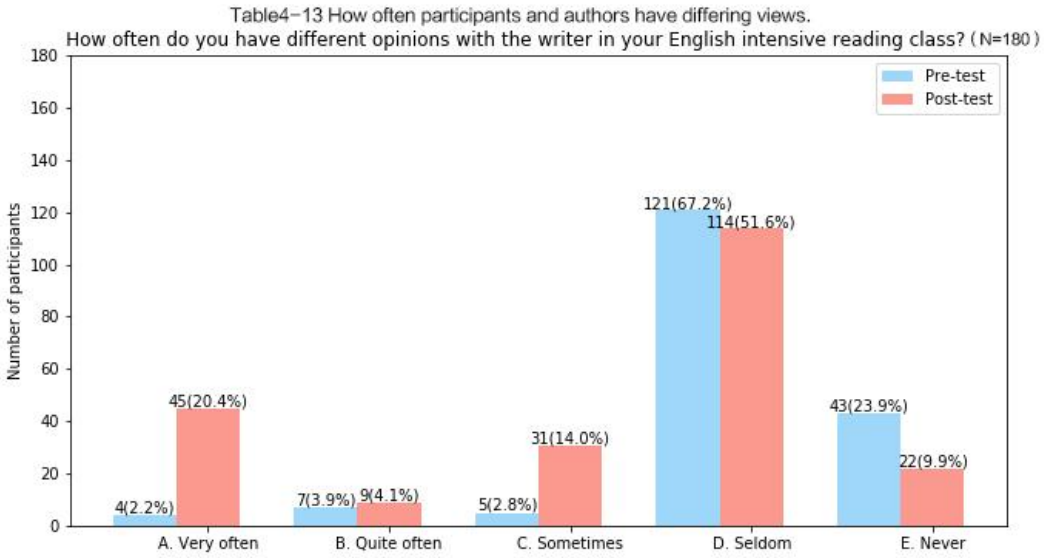
Table4- 12 The degree to which the participants independently completed the exercises in the college English intensive reading course.



This question was designed to investigate participants' ability to think independently and solve problems. In the textbooks selected for the research, there were corresponding exercises at the back of each unit of the text, which mainly examine the participants' understanding and applying of the new words and expressions in the text, the use of fixed collocations, the mastery of the meaning and structure of the text, the writing purpose and the writing skills. Although the questions were difficult to a certain extent, participants who can answer the questions and can answer the question correctly were two different concepts. This question focuses on whether the student can answer the question or not.

The number of participants who can answer all the questions remains zero in the post-test. This was acceptable because the questions were not easy to answer. It was glad to see the number of participants who can answer most of the questions climbed 7.2%, from 15% to 22.2%, and participants who can answer some of the questions increased 2.4%, from 67% to 69.4%. Although the number of participants with these two options did not increase much, 7.2% and 2.4% respectively, in the post-test, the total number of participants with these two options accounted for 92.2%, indicating that most participants can think positively, they had certain thinking ability and method of independent thinking.

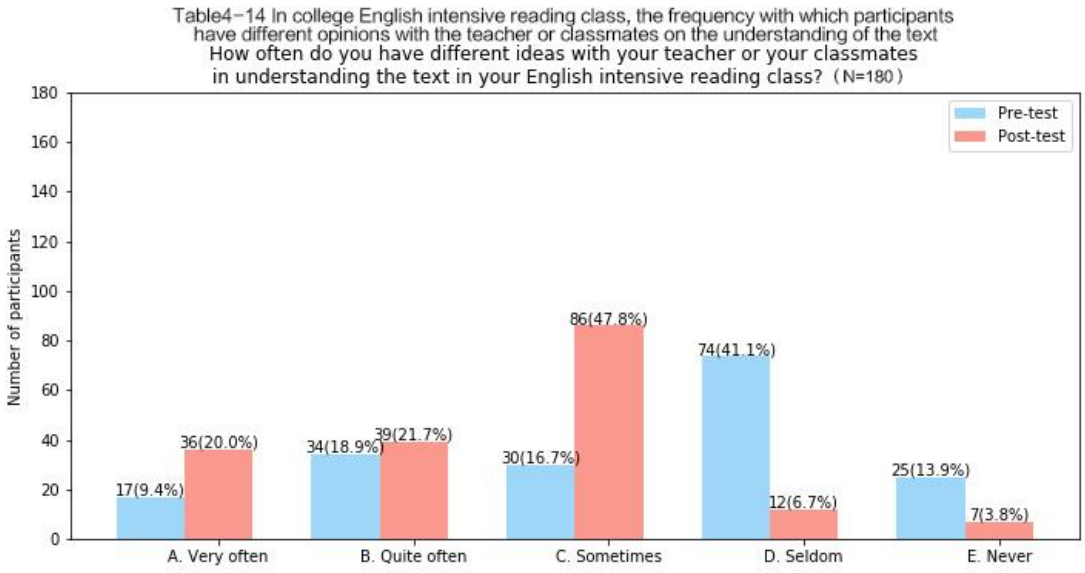
Table4- 13　How often participants and authors have differing views.



As shown in the table, in the pre-test and post-test, the most floating options were Very often and Sometimes. In the pre-test, there were only 4 participants who

often had different opinions from the writer, but in the post-test, the number increased to 45, rose 18.2%. The number of participants who chose Sometimes increased from 5 to 31, an increase of 11.2%. The number of options Quite often has not changed much, with an increase of 2 people. The number of people chose Seldom was relatively large, and the decrease was not as significant as expected, with a drop of 15.6%. The number of people chose Never fell 14% due to a small base, which was basically in line with expectations. The sum of the option Very often, Quite often and Sometimes increased from 8.6% in the pre-test to 38.5% in the post-test, indicating that nearly 30% of the participants had transitioned from seldom having different opinions or never having different opinions to sometimes having or often having different opinions.

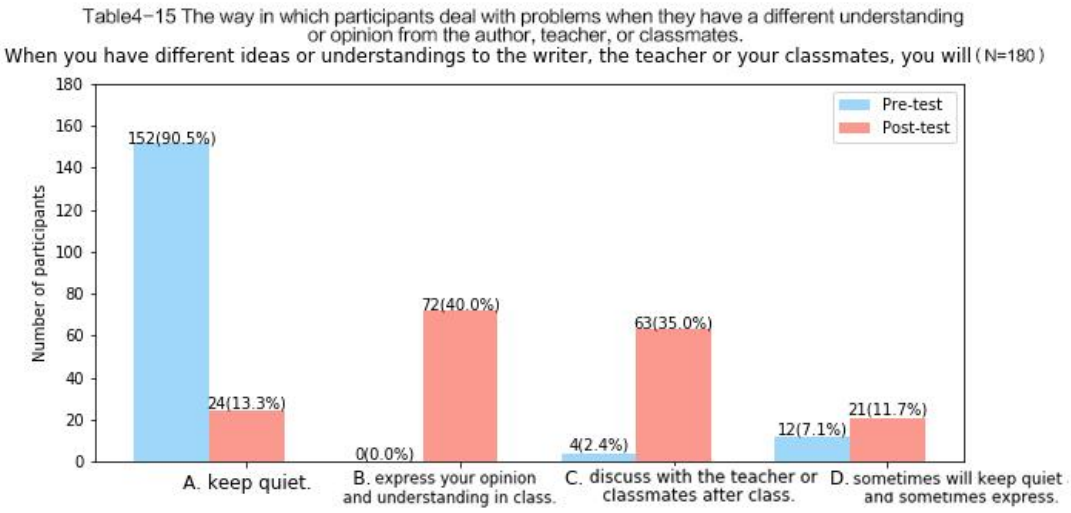
Table4- 14 In college English intensive reading class, the frequency with which participants have different opinions with the teacher or classmates on the understanding of the text



For this question, the largest fluctuations in the number of people were options Sometimes and Seldom. The number of options Sometimes rose 31.1%, while the number of options Seldom fell 34.4%. Option Sometimes added 56 (31.1%) people and Option Seldom lost 62 (34.4%) people. The number of people in these two options was larger among the five options, so the larger increase and decrease in the number of people in these two options can indicate the trend. Nearly 30% of people changed in the post-test, from having little or no disagreement to sometimes or often

disagreeing. The number of Option Very Often has increased from 17 to 36, an increase of 19(10.6%) people. The number of Option Never dropped from 25 (13.9%) to 7 (3.9%), a decrease of 18 (10%) people. Option Quite often saw a slight change in the number of people, with an increase of only 5(2.8%) people.

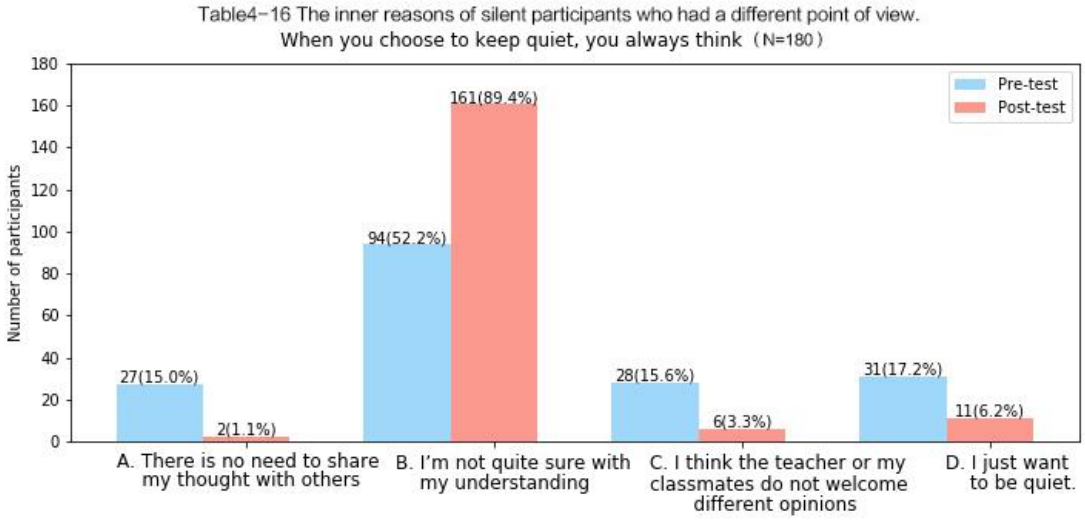
Table4- 15 The way in which participants deal with problems when they have a different understanding or opinion from the author, teacher, or classmates.



Since started working, the researcher have been giving English classes myself, and have observed many English classes. Few participants express their different opinions in class. As shown in the data in the pre-test, 90.5% of the participants chose to remain silent, and none of the participants chose to share their different opinions in class. This data may be unacceptable to Western scholars, but in our daily teaching, it was indeed the facts which we cannot deny. In the pre-test, only 2.4% of the participants will discuss their different opinions with teachers or classmates after class, and 7.1% of the participants sometimes keep silent and sometimes express, so in total less than 9.5% of the participants express different opinions. This kind of psychology of participants was one of the reasons why the classroom atmosphere was inactive, and it was also one of the reasons why the interaction between teachers and participants, participants and participants, was not sufficient. In the post-test, participants chose to keep quiet dropped to 13.3%, and there were still 24 (13.3%) out of 180 participants refused to express. It was glad to see that 40% participants began to share their opinions bravely in class. 35% participants chose to discuss with the teacher or their classmates after class, and 9 (4.6%) more participants chose D, which

means in the post-test, there were 86.7% participants dare to give out different understanding compared with 9.5% in the pre-test. It was not difficult to imagine how active participants' thinking and classroom atmosphere will be if so many participants dare to express their different views in class or after class. As for the reason why there were participants chose to keep quiet will be discussed in the next question.

Table4- 16 The inner reasons of silent participants who had a different point of view.



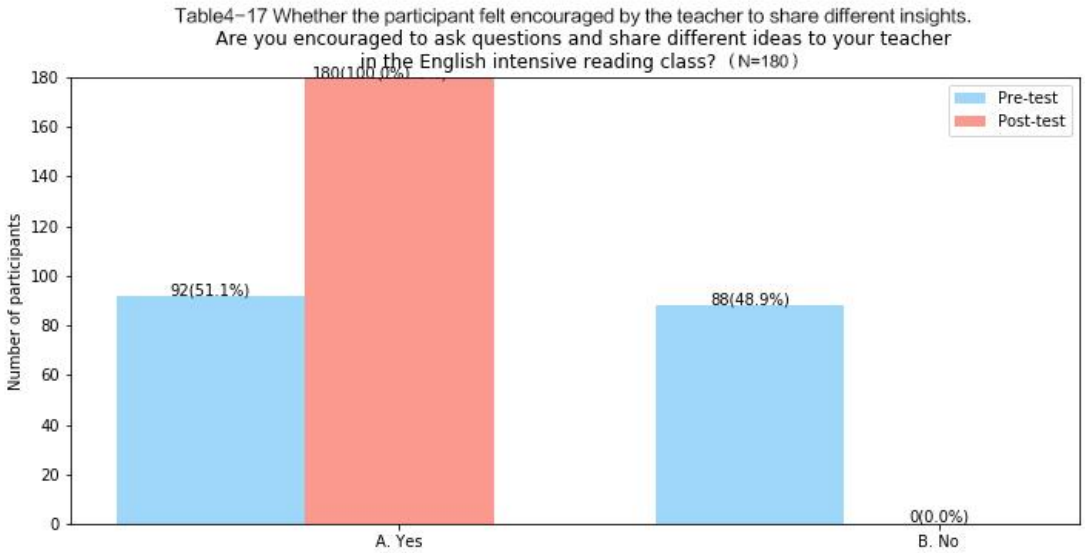
The silence of Chinese participants in the classroom makes teachers doubt the effect of their lectures. The teachers di not know whether the participants understand or not understand what the teacher were talking about; whether they were thinking or have lost their minds; whether they were satisfied or dissatisfied with the content and methods of the teaching. This question, then, was designed to reveal why these participants chose to keep silent. It is predicted that participants chose to be silent mainly for the following reasons: Firstly, it was common for people to have different opinions, so there was no need to tell others or even argue with others for persuading others to accept my view. Secondly, lack of self-confidence. Because the researcherwas not quite sure whether my understanding was correct or not, so the researcher was dare not to express my opinion. If you oppose the teacher's opinion in front of all the participants in the class, and put forward your own opinion which proved to be wrong in the end, it will be a very humiliating thing, it was better not to say it, or not to raise objections in public. Thirdly, the researcher thought that teachers and classmates did not welcome different opinions, so the researcher chose to remain silent in order not to offend others. In addition to these three reasons, there were some participants who had the habit of keeping silent but never thought about

the reasons or they were not willing to tell the reasons, so the researcher designed the forth option for them: just want to be quiet.

In the pre-test, 27 (15%) participants believed that there was no need to share their opinions, while in the post-test, 2 (1.1%) participants believed so. 25 (13.9%) participants realized that it was good to share different opinions. No matter in the pre-test or the post-test, the number of people who chose option B was the largest, with 52.2% in the pre-test and 89.4% in the post-test. This means that the reason most people choose to remain silent was that they were not confident in their own understanding. To the surprise of the researcher, after a semester of critical thinking training, the number of participants who were not confident in their own opinions increased by 37.2% instead of decreasing. In the next chapter, the reasons for their lack of self-confidence in their understanding will be discussed further, so the researcher won't repeat them here. The number of participants who thought that teachers and classmates did not welcome different opinion was 15.6% in the pre-test and 3.3% in the post-test. The change in this data was still a little disappointing to the researcher. Because when preparing lessons with the two teachers, we took into account that some participants would have such doubts, therefore, in the first class of the new semester, we emphasized to the participants that our speculative class this semester welcomes participants to put forward different opinions for discussion. And in the usual teaching, teachers were also required to use language and incentives to encourage participants to express their views. According to the expectations of the research and the two teachers, all participants should feel that in the English intensive reading class this semester, different viewpoints were welcome. But the fact was that there were still 6 classmates whose ideas have not been influenced and changed. Participants who chose to be quiet dropped from 17.2% in the pre-test to 6.2% in the post-test. That was to say, 11% of the participants knew why they chose to be silent through thinking and analyzing, but there were 11 (6.1%) participants who still kept silent. after one semester. This was also a result that the researcher regrets for. We must admit that it was difficult to change the habits of participants in one semester, but the original intention of the researcher was that even if it was too quick to change in action, at least there must be some change in thinking. For example, a student who did not know why he chose to be silent, after a semester of training, he was not expected to take the initiative to express his view; at least he has to analyze the reason why he chose to be silent before. Because only knowing the reason, it was possible to

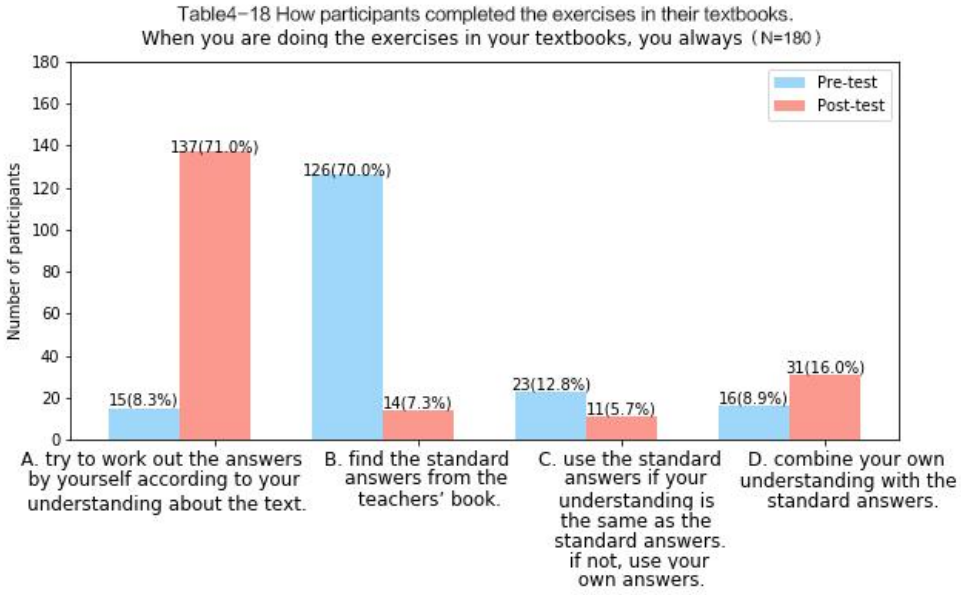
find a way and make a change in the follow-up study. Of course, it was not excluded that the listed options did not give the reason for their silence, so they can only choose I just want to be quiet, which was a problem that the research need to solve in the follow-up study.

Table4- 17 Whether the participant felt encouraged by the teacher to share different insights.



From table4-16 we can see that, there were 6 (3.3%) participants chose C (I think the teacher and my classmates do not welcome different opinions) in the post-test. While in this question, from the data, it was obvious that all of the participants were quite sure that they were encouraged to share different ideas to the teacher in English intensive reading class in the post-test. Judging from the data comparison of these two questions, in the post-test the 6 participants who still chose C thought that it was classmates rather than teachers who did not welcome different opinions. In the pre-test, only 51.1% participants believed that teachers encouraged participants to ask questions and express different opinions. In other words, nearly half of the participants believed that teachers did not encourage participants to ask questions and express different opinions. The experimental results were as expected. In the post-test, all participants were sure that their questions and different opinions were encouraged by their teachers, and this was a good result to this study.

Table4- 18 How participants completed the exercises in their textbooks.



It should be noted that the textbooks used by Chinese participants can be bought in bookstores, and they can also buy their matching teachers' books or similar books with answers to attached exercises in their textbooks. Unlike in the United Kingdom and the United States, these books in China were very cheap, and participants can buy the book with the money of a dish of fish and chips if they want. With this book in hand, participants can easily complete the exercises in their textbooks with the assurance that the answers were the same as the teacher's. The purpose of this question in the questionnaire was to reveal the real state of the participants doing the exercises, so as to understand the participants' thinking habit.

Option A was to answer the questions based on their own understanding of the text, which requires participants to listen carefully to the teacher's explanation or have a certain ability to think independently, or both. Option B was to find the answer directly from the reference book, so such participants were either too lazy to think, or do not listen to the teacher carefully. Option C was when your own answer was inconsistent with the standard answer in the reference book, use your own answer. These participants also referred to the standard answers when doing the exercises, but they dare to insist on their different answers, which proved that they had a thinking process and had certain confidence in their answers. Option D was the practice of combining your own answer with the standard answer. These participants also went through a thought process, or they borrowed from standard answers to refine their answers.

In the pre-test, most participants chose B, while in the post-test, most participants chose A. The participants who chose A rose from 8.3% in the pre-test to 71% in the post-test, an increase of 62.7%. Coincidentally, the participants who chose B dropped from 70% in the pre-test to 7.3% in the post-test, which also dropped 62.7%. This was a positive change, as the number of participants choosing to copy answers from reference books has decreased as much as the number of participants seeking answers by thinking independently has increased. The number of participants who chose C decreased 7.1%, from 12.8% to 5.7%, which was not the result the research wanted to see, because 7.1% of the participants gave up sticking to their own answer. The participants who chose D rose from 8.9% in the pre-test to 16% in the post-test, almost doubling. In other words, after a semester of training, more participants were willing to solve problems by thinking and combining standard answers with their own opinions.

In addition to the participants who choose B, the participants who choose A,C,D all have the process of thinking when doing questions. The more participants who chose A, C, and D, the more participants who chose to think. The sum of participants who chose A, C, and D in the pre-test was 30%, and the sum rose to 92.7% in the post-test. Whether it was completely independent thinking or thinking with reference to standard answers, it was worth encouraging. As long as participants continue to be guided to think and teach them critical thinking methods, one day they will be able to form good thinking habits.

Table4- 19 Whether participants had aware the change in their thinking.

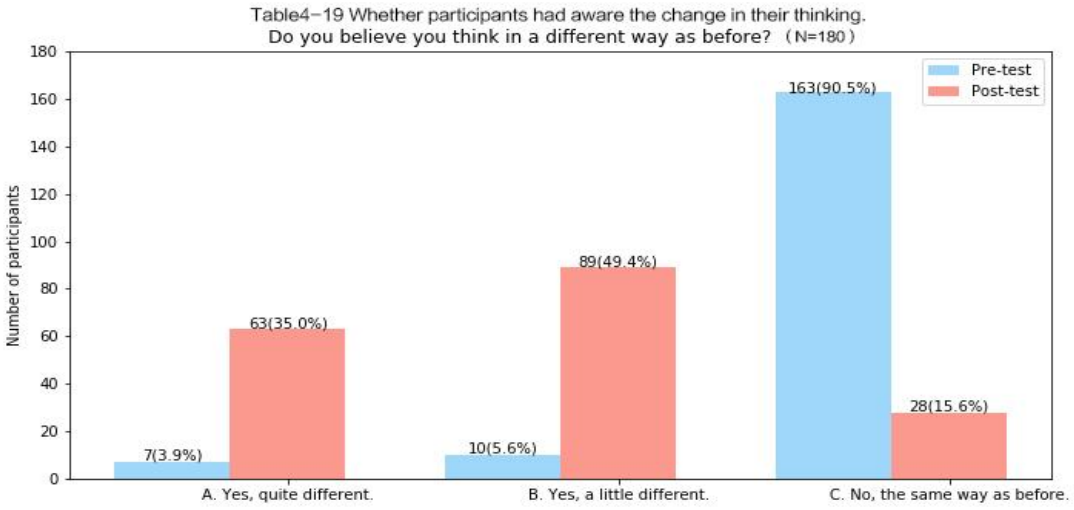


Table4-19 配对样本检验(Matched samples t-test)

		实际值 f_o	理论值 f_e	$(f_o-f_e)^2/f_e$	χ^2	差值 95% 置信度 1-α	自由度 df	显著性 Sig
	A	63	7	448				
配对 5	B	89	10	624.1	1183.9098	5.991	2	8.2651e-258
	C	28	163	111.8098				

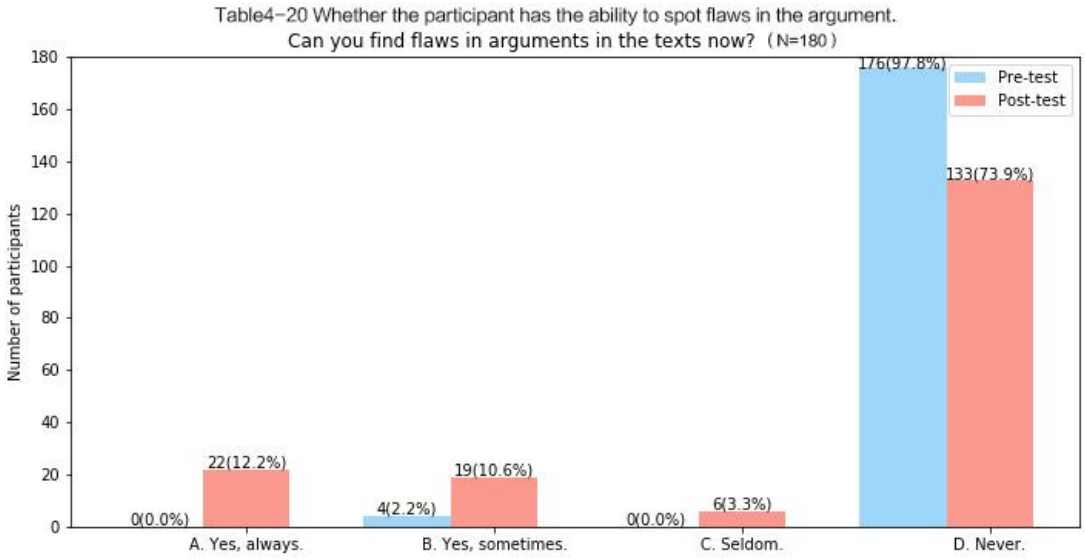
This question was mainly to find out whether participants have noticed or recognized that their way of thinking has changed after a semester of training, and further to investigate whether the change was large or small, or has not changed at all. The time point of the pre-test was when the freshman participants have just started their university life. At that time, they had just taken the Chinese college entrance examination and entered the university to start their studies. At this time, ask them if their thinking has changed from before, the participants' understanding should be whether the current thinking has changed compared with that in high school. The time point for the post-test was at the end of the second semester of their freshman year. Because this semester was very short, only three months, some participants may compare to the first semester, and some participants may still compare to when they were in high school. No matter it was compared with either time period, it can reflect the change of participants' thinking to a certain extent.

The number of participants who thought their way of thinking had changed increased from 9.5% (3.9% + 5.6%) in the pre-test to 84.4% (35% + 49.4%) in the post test, of which the number of participants who thought that the change had been greatly increased 31.1%, and those who think that there was a change but a small change rose 43.8%. Although the training had just last for one semester, 152 (84.4%) participants had changed their way of thinking, and only 28 (15.6%) out of 180 participants had not changed. Compared with the 163 (90.6%) participants in the pre-test, the change was inevitable.

When the data was run by Chi-square test, the result showed that p=8.2651e-258, the value was smaller than 0.5, so the change was significant. Since the Teaching Trilogy was designed to help students form the habit of critical thinking, whether the participants had changed their thinking method was worth being concerned. The number of participants who claimed no changing in the way of their thinking had dropped so noticeably, therefore, the new teaching mode made a difference in

participants' thinking habit.

Table4- 20 Whether the participant has the ability to spot flaws in the argument.

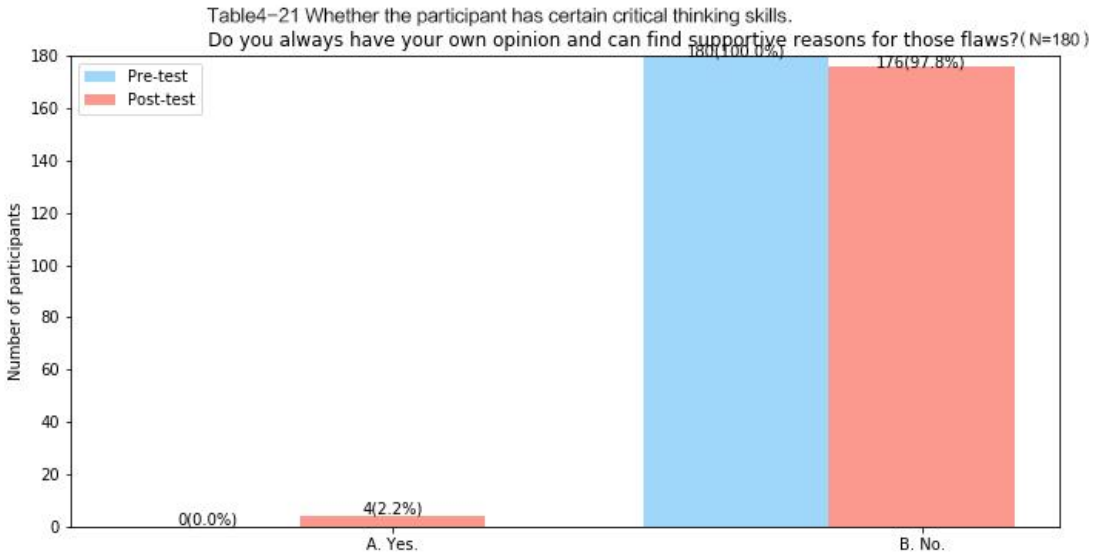


One of the trainings in critical thinking was evaluating arguments. Participants were trained to have the thinking skills of identifying what an argument is, how an argument was structured, and whether an argument was reasonable. This question was designed to reveal participants' ability of identifying flaws in arguments.

To the research' surprise, in the pre-test, none of the participants admitted that they always found flaws in arguments, only 2.2% of the participants sometimes found it, no participants chose Seldom which was find it occasionally, and the percentage of participants who never found it actually had as much as 97.8%. From the data of the pre-test, we can see that among the 180 participants, only 4 of them were able to find flaws in arguments, and majority of them did not. This was related to the traditional education Chinese participants had received since their childhood. The further analysis for specific reasons will be discussed in the next chapter. In the post-test, 22 people, accounting for 12.2%, claimed that they can always find flaws in arguments. Participants who can sometimes find flaws went up to 19 people, accounting for 10.6%, and only 6 people can seldom find flaws, accounting for 3.3%, and there were still 133 people who can never find flaws, accounting for 3.9%.Regardless of the frequency of finding flaws, the number of participants who can find argument flaws was relatively small both in the pre-test and post-test. From 4 people (2.2%) in the pre-test to 47 people (26.1%) in the post-test, although the number of participants who

can find flaws had increased, the increase was not large. Whether it was 176 (97.8%) or 133 (73.9%), the number of people who chose never was relatively concentrated. In other words, the vast majority of participants still did not have the ability to discover flaws, or they even did not try to discover them at all. Although the knowledge of critical thinking had been elaborated and skills had been trained in the past semester, there were still so many participants who have not changed that much. The possible reasons will be discussed in the next chapter, too.

Table4- 21 Whether the participant has certain critical thinking skills.

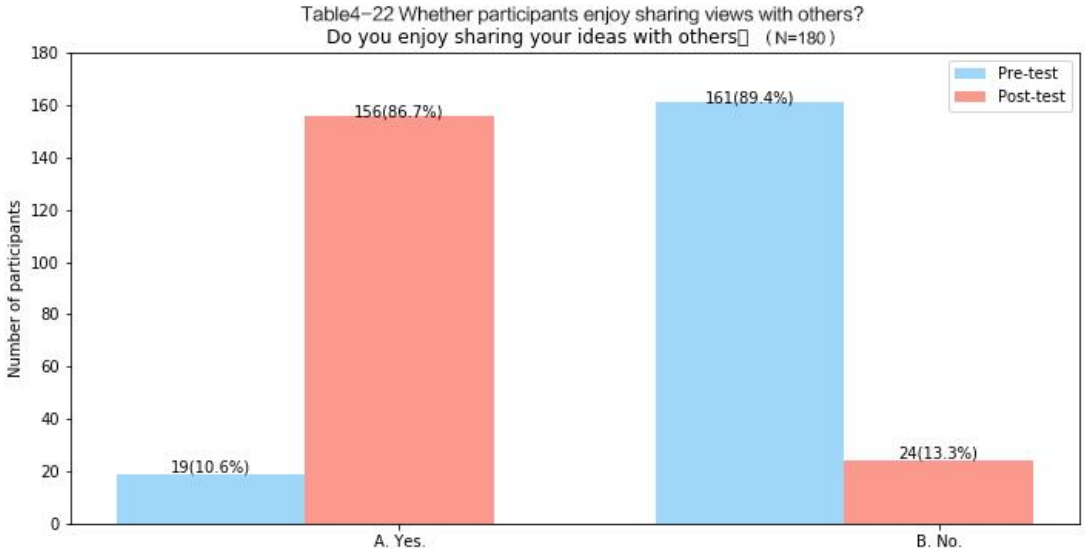


This question was a further question to the previous question. The purpose was to know whether participants who can find flaws in 4-20 were just staying at the level of discovery, or can they think more deeply and find proof to support their own discovery.

The number of people who chose A in the pre-test was 0, while all participants chose B, and the number of people who chose A was 0 less than the sum of the first three options in the pre-test 4, which was reasonable. In the post-test, 4 participants (2.2%) chose A, while 176 people (97.8%) chose B. That was to say, according to the data of 4-20, even 47 participants have the ability to discover the flaws in the post-test, only 4 participants can find the evidence to support their conclusions, and the rest of the participants were stuck in the level of discovering the flaws. Although only 4 participants changed, combining the data from the 4-20 and 4-21 pre-tests, we can see how urgent the participants' original thinking needs to be changed. The inherent way

of thinking of the participants was gradually formed and consolidated in the process of receiving education in the past 12 years. It was the product of traditional Chinese educational concepts and teaching methods. It was very difficult to change such thinking habits. Although from the data of these two questions, the effect of our research was not obvious, but it does have played a certain role. Some participants were indeed in the process of changing, which was just worthy of our affirmation.

Table4- 22 Whether participants enjoy sharing views with others?

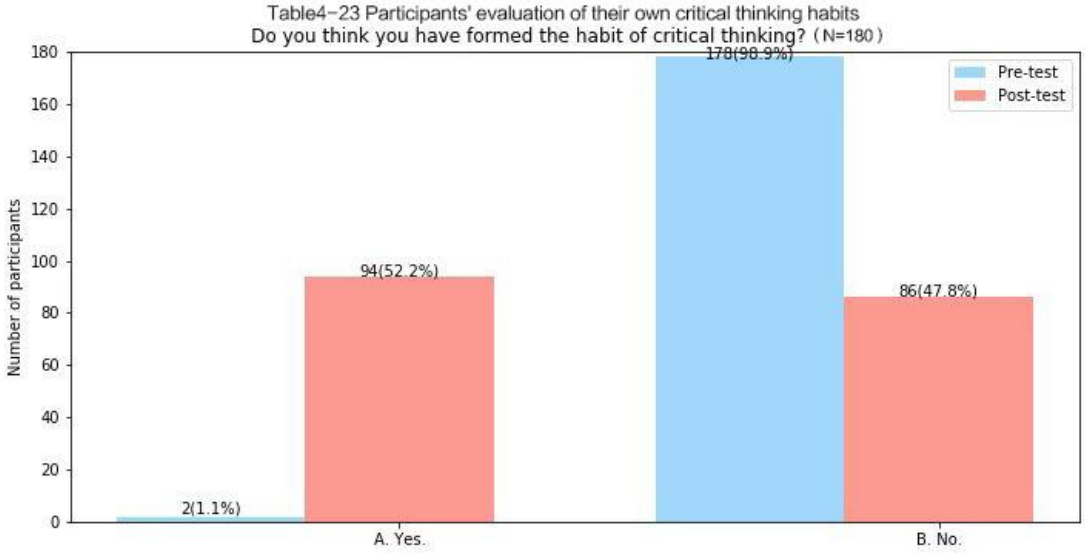


This question was designed to investigate whether participants were keen to share their views. In the pre-test, 10.6% enjoyed sharing their opinions, while 89.4% of the participants did not enjoy to share. This was related to traditional Chinese Confucianism, and will be collectively explained in the next chapter. Consistent with the research' expectations, after a semester of critical thinking training, in the post-test, the percentage of participants who enjoyed sharing their idea rose to 86.7%, and only 13.3% did not enjoy to share. It can be seen from the figure that in the pre-test and the post-test, the number of participants who chose Yes and No just interchanged.

In the previous questions (Table4-15), we investigated whether participants dare to express their different opinions. This question was a question of digging deeper into the psychological changes of participants. Dare to express and be willing to share your different opinions were two completely different mindsets. The former was very likely to be achieved after repeated targeted thinking training, while the latter requires a deeper psychological transformation. If the former was a question of whether it can

be done, then the latter was a question of whether glad to do or not. As shown in the table, 76.1% of the participants had positive changes psychologically, which will promote their further training in critical thinking and the formation of critical thinking habits.

Table4- 23 Participants' evaluation of their own critical thinking habits

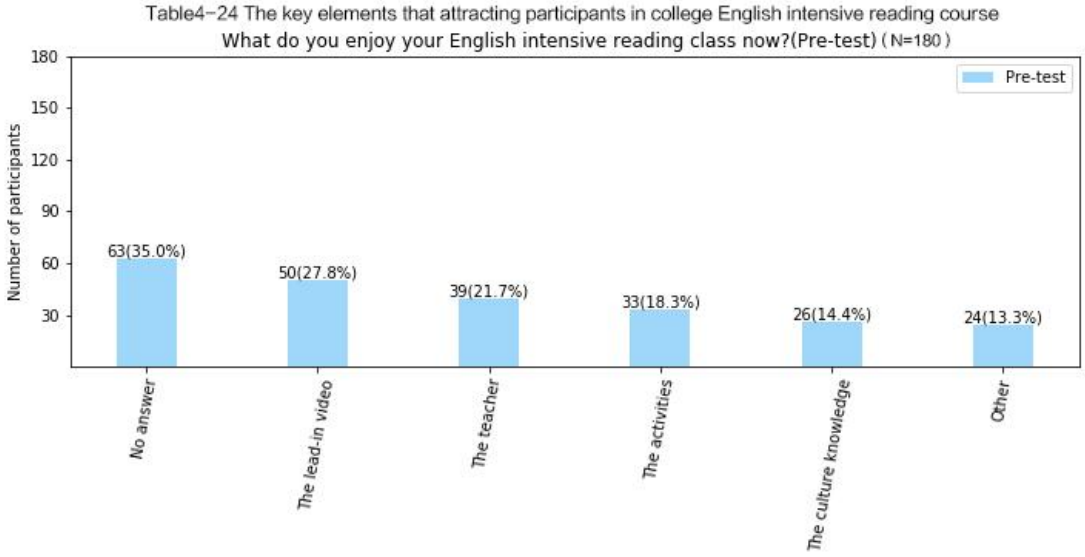


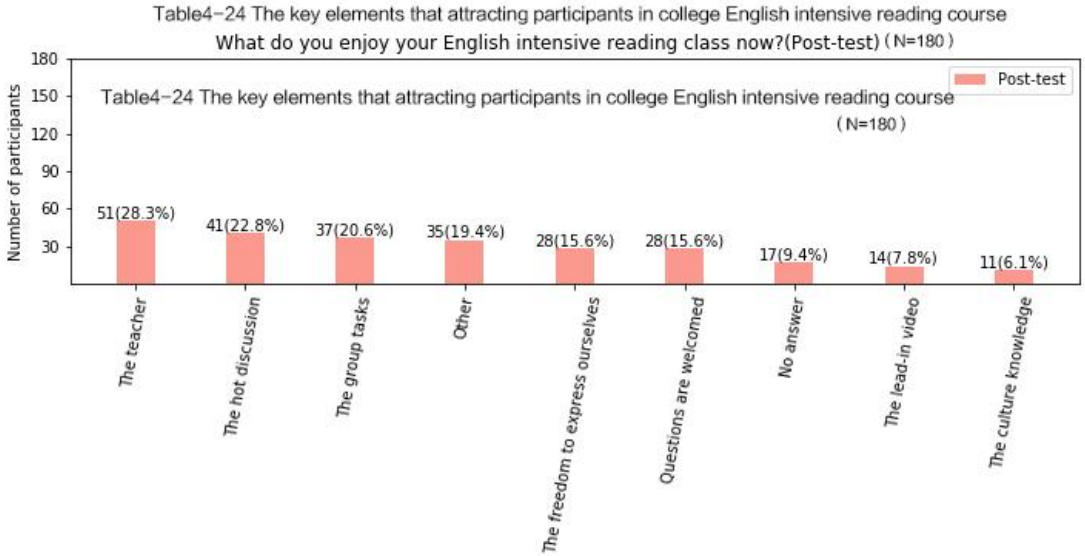
After a semester of critical thinking training and the application of the new teaching mode, whether the participants have changed their way of thinking and whether they have realized the impact of critical thinking training on themselves were what the researcher eager to know. The final multiple-choice question was designed to test whether participants think they have formed the habit of critical thinking. Although whether the habit of critical thinking had been formed or not cannot be judged by participants subjectively, but through the data of this question, the researcher can analyze and infer some conclusions.

It can be seen from the table that in the pre-test, there was a huge difference in the number of people who choose A and B. The former had only 2 participants (1.1%), while the latter had 178 participants. That was to say, during the pre-test, almost all participants thought that they had not formed critical thinking. What we cannot ignore was that some participants who had formed the habit of critical thinking, but they did not understand the concept of critical thinking, so they did not know their own way of thinking was critical thinking. The huge contrast of numbers in the data in the pre-test also proves the necessity of this study. In the post-test, the percentages of participants who chose A and B tended to be close, 52.2% and 47.8%, respectively. We cannot be

optimistic that 52.2% of the participants have formed critical thinking, because the participants' subjective judgments were not necessarily accurate, we have to further demonstrate this result through the test of CCTDI-cv. However, we can say that at least 52.2% of the participants had been able to recognize the characteristics of critical thinking, and can consciously use critical thinking skills to deal with problems. The remaining 47.8% of the participants, although they did not think they had formed the habit of critical thinking, the research believed that they also understand the relevant knowledge of critical thinking, but they did not think they had formed the habit.

Table4- 24 The key elements that attracting participants in college English intensive reading course





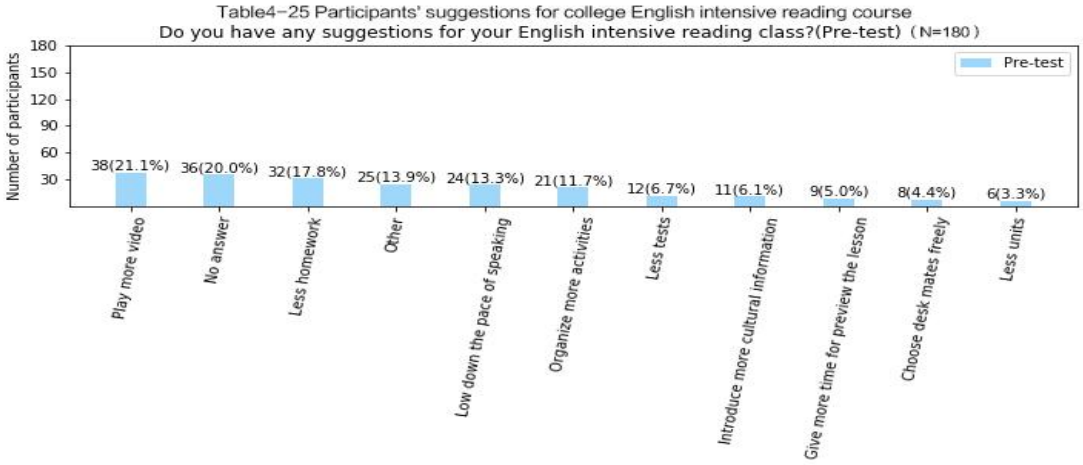
This question was an open-ended question, aiming to find out what participants were interested in college English intensive reading class. The data in the pre-test was collected at the beginning of last semester, so the responses of participants reflected their preferences for the classroom before the action research. The post-test data was collected at the end of the experiment of the new teaching mode, so the data reflected the highlights of the new classroom that attracted participants.

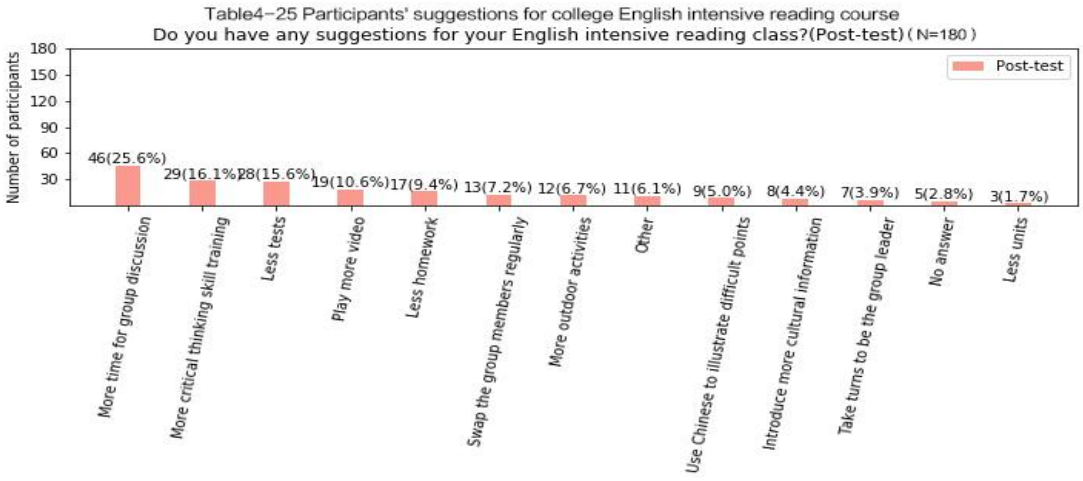
Among the various answers, a generalization was made, and the following were relatively concentrated answers: in the pre-test, the number of people who mentioned that they liked English teachers was 39 (27.1%). Participants like the teacher, and naturally they like the class. In our textbooks, for each text, there will be an explanation of cultural knowledge, and 14.4% of the participants said they liked this part of the content. In the introduction part before explaining the text, teachers often give participants a short video about it. 27.8% of the participants mentioned that they liked these videos, which was also the answer with the most mentions. It seems that videos were still very attractive to participants. 33 participants (18.3%) liked classroom activities, 13.3% of the participants gave other answers, and 35% of the participants did not answer this question.

There was a certain amount of repetition between the answers in the post-test and the pre-test, but many new answers also emerged. The number of participants who mentioned that they liked teachers rose 6.6%, from 21.7% to 28.3%. Changes in teachers' teaching concepts and teaching methods may be the reasons why participants change their attitudes towards teachers. Both the participants who like cultural knowledge and like lead-in videos have dropped 8.3% and 20% respectively, which was no longer a relatively concentrated answer. This does not mean that the participants do not like these two any longer, but it was possible that the participants mentioned other more obvious preferences and neglected to mention these two points. In the pre-test, participants who mentioned that they liked classroom activities gave more specific answers in the post-test. 37 (20.6%) participants clearly pointed out that they liked the group task activities in the classroom. In addition, 41 (22.8%) participants said they liked the lively discussions in class. It can be seen that the new classroom teaching mode including critical thinking training has been recognized by some participants and participants' interest in learning can also be stimulated. In the post-test, there were two more concentrated answers that did not appear in the pre-test. One of them was that participants enjoyed the freedom of express themselves and the

other was the welcome for questions.And the number of these two answers was the same, 28 people (15.6%). The number indicated that some participants had already felt that questions were welcome, and they can express themselves freely in their English intensive reading class. This was the basis for participants to develop critical thinking habits. Only in such a classroom atmosphere can participants be encouraged to think, and gradually master the skills of critical thinking, then form the habit of critical thinking. In the post-test, 35 people (19.4%) provided other answers, for example, they liked the classroom floor of this semester, and they liked the schedule of classes, etc. Since they were all individual answers and had little to do with this study, they will not be repeated here. The number of participants who did not answer dropped significantly, from 53% to 9.4%, indicating that more participants chose to express themselves and more participants discovered the highlights of English class. This was part of the expected result of this study.

Table4- 25 Participants' suggestions for college English intensive reading course





Due to the limited number of interviews, in order to maximize the understanding of participants' suggestions for college English intensive reading class, the researcher designed this open-ended question in the questionnaire. Different suggestions given by participants at different test times can reflect the problems existing in the classroom at different times or the deficiencies to be improved. With these data in hand, the researcher can make targeted changes in the designing of teaching plan and teaching mode in subsequent research, and find out the most suitable teaching plan and mode for participants.

In the pre-test, for the semester before the new teaching mode, the most concentrated suggestion given by participants was to play more video materials, which was mentioned by 38 out of 180 people, accounting for 21.2%. Compared with the boring teaching by the teacher, the video material was more attractive to the participants. In the post-test, this figure dropped by half, indicating that some participants' attention had been diverted. In the pre-test, 24 participants (13.3%) hoped that the teacher should slow down their speaking pace, but only 2 people mentioned this in the post-test, which was not listed separately in the table. The number of participants recommending less homework fell 8.4%, from 17.8% to 9.4%, while the number of participants who suggested reducing the number of tests increased 8.9%, from 6.7% to 15.6%. In the pre-test, 5% of the participants wished to be given more time to preview the learning content, while in the post-test, 25.6% of the participants mentioned wishing to be given more time for group discussions. The participants who suggested reducing the number of study units fell 1.6%, from 3.3% to 1.7%. These participants thought that there was too much study content in each semester and hoped to cut off the study content of some units. These participants may have problems with learning ability, or they may just be lazy. In the pre-test, 11.7% of the participants mentioned that they would like the teacher to organize more activities. In the post-test, this suggestion was more specific. 6.7% of the participants hoped that the teacher would organize more outdoor activities. In Table 2-24, we see that participants were very interested in cultural knowledge, which was further reflected in this question. In the pre-test, 6.1% of the participants suggested teachers to introduce more cultural knowledge, and 4.4% in the post-test. It can be seen that there were still some participants whose cultural thirst for knowledge has not been satisfied. In the pre-test, 8 participants had the desire to choose their deskmates by themselves, while in the post-test, 7.2% of the participants hoped that the group members would be

swapped frequently. This reflects that participants still care more about the learning ability and character of their collaborators. In addition to the above changes, there were several new answers that were relatively concentrated in the post-test. The first was that 16.1% of the participants suggested more training in critical thinking skills, which shows that participants have recognized the importance of critical thinking and achieved certain results. Secondly, 3.9% of the participants believed that they should take turns to be group leaders, which was also a reflection of participants' enthusiasm for learning. Finally, 5% of the participants suggested that teachers use Chinese to explain some difficult points. The possible reason might be that when teachers explain the concepts and skills of critical thinking, some professional terminology was involved, which was difficult for participants to understand. After all, these participants were not English major participants, and their foreign language level was not so high to understand all other subjects. Since participants put forward such request, it proves that these participants do not reject the teaching of critical thinking, and were willing to accept and learn. It should be emphasized that the number of participants who did not answer the test was reduced from 36 to 5. This indicates that more participants have become the masters of the classroom. They actively participate in the classroom through thinking and have a certain sense of responsibility for the classroom which was one of the goals that the research wants to achieve.

4.2 Exam data analysis

This section of the chapter reports the data of the two final exams in the last two semesters. The findings addresses the last two research questions of my research, which are How are participants' critical thinking abilities developed through the research and Can those teaching approach help participants have further textual understanding?

In the semester before the action research, all the final exams of the English intensive reading course consisted of multiple-choice questions on reading comprehension, and only 2 of the 6 reading articles were extracurricular articles, and the other 4 were articles from the text book. What's more, the exam questions were also the original questions in the textbook, but the order of options has been changed. This time, the final exam has been reformed. There were also 6 reading comprehension articles, but all of them come from extracurricular resources. 5 of them were still multiple-choice questions, and the other was short-answer questions.

In the question bank, the articles were divided into 5 levels according to the difficulty of vocabulary and comprehension, from easy to difficult; they were level1, level2, level3, level4 and level5 respectively. In the semester before the research, the two articles of extracurricular reading were graded level2 and level3 respectively, while in the research semester, of the 6 reading articles, 3articles belong to level 2, 2belong tolevel3, and 1belong to level 4, of which the short answer questions belong to level 2. In order to allow participants to express their opinions on the basis of understanding the text as much as possible, the short answer questions were selected with a difficulty of 2. If the text was too difficult and participants have major problems understanding words, then it was impossible to test the participants' use of critical thinking skills in reading comprehension. The reform of the test paper was to check whether the participants' thinking ability has been improved, and whether this improvement was conducive to improving the comprehension ability. The addition of short answer questions was to give participants the opportunity to express their ideas and to test their mastery of the individual sub-skills of critical thinking. Although the addition of short answer questions increases the workload of the marking teachers, it can reflect the teaching effect more accurately. The extracurricular reading comprehension article replaces the article in the textbook, so that participants can realize that they cannot pass the exam with memorizing the answers. Only by mastering the reading method and cultivating good thinking habits can they fundamentally solve the problem.

It was unscientific to compare the final exam scores of the two semesters directly. After all, the content of the exam and the scope of the questions were completely different. Therefore, we only compare the scores of the multiple-choice part of the extracurricular part of the semester before the research and the research semester. Because these two parts were both extracurricular questions and multiple-choice questions, the results of the comparison were convincing.

In the semester before the research, the average correct rate of the two extracurricular reading was 32.6%, while in the research semester, the correct rate of the five extracurricular readings was 51.8%. The accuracy rate increased 19.2%. From this percentage, although the improvement was not big, there was still a big disparity in the number of two reading comprehension and five reading comprehensions. Therefore, the research calculated the reading comprehension rate of the two articles in the research semester with similar difficulty in extracurricular reading as the pre-research semester, and the correct rate reached 60.1%, nearly doubled compared with

the pre-research semester.

There were 5 types of questions in the multiple choice questions in the two exams. They were fact and detail questions, reasoning and judgment question, analysis and generalization questions, vocabulary and grammar questions and evaluation, emotion and attitude questions. The amount of each type and the correct rate were shown in table 4-26. It should be noted that the algorithm for the scoring rate in this table is: add up the number of people who scored each question of this type, divide by the amount of questions, and then divide by the total number of people. So this scoring rate was the average scoring rate for that type of question.

Table4- 26 Results Comparison

Type	Amount last semester	Correct rate	Amount this semester	Correct rate	Fluctuation rate
Factual& detailed questions	1	52%	3	57%	+5%
Reasoning(inference) & judgmental questions	4	34%	10	61%	+27%
Analytical& general questions	2	27%	6	47%	+20%
Lexical& grammatical questions	2	17%	3	28%	+11%
Evaluation, Emotional& attitude questions	1	33%	3	66%	+33%

配对样本检验(Matched samples t-test)

		配对差值 Absolute value					t	自由度 df	显著性（双尾） Sig(2-tailed)
		平均值 Mean	标准差 Std.D	标准误差平均值 SEM	差值 95% 置信区间 95%CI 下限 LL	上限 UL			
配对 1	before - after	-.19200	.11411	.05103	-.33368	-.05032	-3.763	4	.020

P= 0.020, P<0.05,indicating that, the difference in value mean before and after test is statistically significant, that is, there is a significant change in the difference. And the difference in value mean before and after test in the population is not equal to 0.

It can be seen from the above table that there had been a positive increase in the scoring rate for each type of question, among which, the most increase was the correct rate of the last category of questions, which shows that the participants' evaluation ability had been improved to a certain extent, which may be related to the training of critical thinking. With the enhancement of participants' cognition and judgment ability,

they were more rational when dealing with people and things, and were gradually able to view and deal with problems with reasonable attitudes and emotions. The second highest growth was the reasoning and judgment questions. The amount of questions had doubled by 1.5 times, and the scoring rate had nearly doubled. This showed that the participants' reasoning ability and judgment ability had been increased under the new teaching mode. The basic skills of reasoning and judgment were trained in class, and this data also reflects the results of the training. The correct rate for analysis and generalization had also increased 20%, but was still less than 50%. Generalization questions usually require participants to read the whole article. If the student does not have time to read the entire article, the answer to this question was likely to be given by the student at random. From this perspective, it cannot fully reflect the student's analysis and inductive ability. The accuracy of vocabulary and grammar questions has been slightly improved. This semester, because of the training of critical thinking, the training of vocabulary and grammar had been reduced, mainly relying on participants' after-class practice. The smallest increase was in fact and detail questions, with only a 5% increase. Fact and detail questions require participants to read carefully and pay attention to details. This ability was less involved in the training of critical thinking, but such questions were relatively simple and do not require much thinking, so participants correct rate were relatively high in both exams

4.3 CCTDI-CV data analysis

CCTDI-CV was adopted to test the critical thinking disposition of the participants. The pre-test was given to participants at the beginning of the research semester and the post-test was at the end of the research semester. The data of the two tests were compared to see the change in participants. The total score range of CCTDI-CV is 70-420 points. A total score of 350 points or higher indicates that the participant has strong critical thinking disposition. A total score of 280-350 points indicates that the participants has positive critical thinking disposition. A total score of 210-280 points indicates a neutral critical thinking disposition. And a total score lower than 210 points indicates that the participant has negative critical thinking disposition. The score range of sub-scales is 10-60 points. If the score is higher than 50 points, it indicates that the participant has strong disposition toward critical thinking in that dimension. A score of 40-50 points indicates the positive disposition. And a score of 30-40 points indicates that the participant has a contradictory attitude towards critical

thinking in that dimension and has neutral critical thinking disposition. While a score below 30 points indicates that the disposition of participant deviates from critical thinking in that dimension and has negative critical thinking disposition.

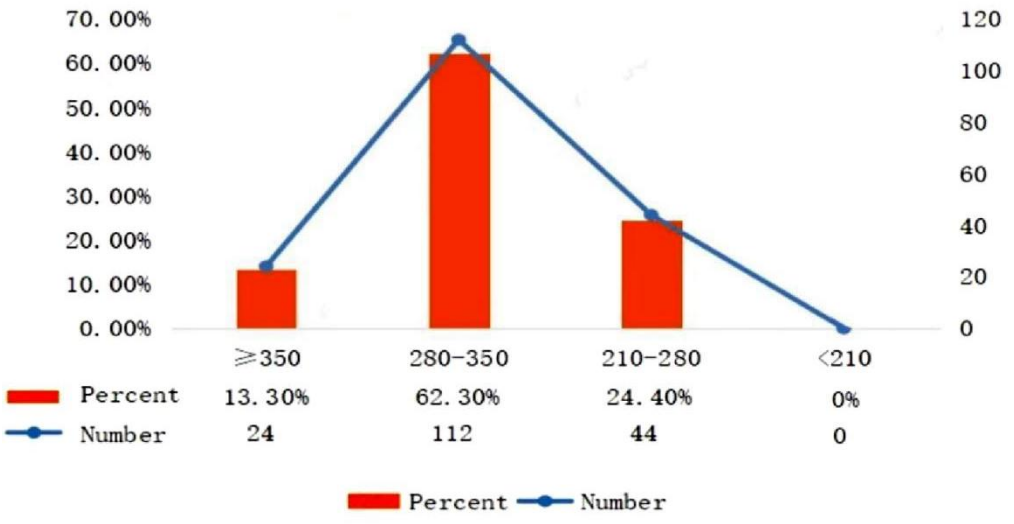
4.3.1 Overall level

Through the data of students' total score of CCTDI-CV, as shown in Table4-27, it can be found that in the pre-test, the maximum of the total scores of critical thinking disposition test is 397, the minimum score is 228, and the average score is 298.3, which is slightly higher than 280, indicating that college students on the whole have positive critical thinking disposition, but still in the middle level. The segment comparison of students' total scores of CCTDI-CV is shown in Table4-28

Table4- 27 Statistical Result of Total Scores(Pre-test)

N	Valid	180
	Missing	0
Mean		298.3
Minimum		228
Maximum		397
Std. Deviation		37.2

Table4- 28 Segment Comparison of Total Score(Pre-test)



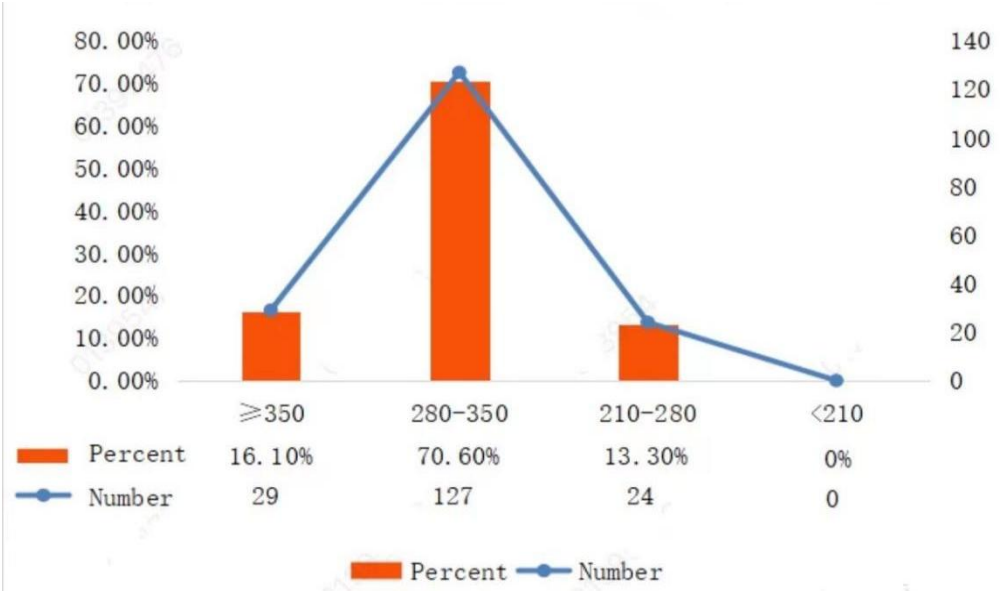
As shown in Table4-28, in the pre-test, there were only 24 students who have strong critical thinking disposition, accounting for 13.3%. Students with a total score in between 280-350 accounted for the most, which was 62.3%, and those students had

positive critical thinking disposition. However, 24.4% of the students got the total score less than 280, indicating that those students had weak critical thinking disposition. Besides, it is particularly noteworthy that, although on the whole 75.6% of the students had positive critical thinking disposition, the proportion of the students with strong critical thinking disposition was very small, which is basically consistent with the research hypothesis, and indicates that college students' critical thinking still had a lot of room for improvement.

Table4- 29 Statistical Result of Total Scores(Post-test)

N	Valid	180
	Missing	0
Mean		312.7
Minimum		254
Maximum		399
Std. Deviation		31.5

Table4- 30 Segment Comparison of Total Score(Post-test)



Compared with the data in the pre-test, Table4-29 and Table4-30 showed a positive trend of the development of students' critical thinking disposition. In the post-test, the average total score had climbed from 298.3 to 312.7, and the maximum score went up from 397 to 399, and the minimum score grew from 228 to 254. The maximum score and the minimum score only involved several students, while the 14.4 points increase of average score indicated the effectiveness of Teaching Trilogy

in developing students' critical thinking disposition. Table4-30 showed the segment comparison of total score in the post-test. The distribution was slightly different with Table4-29. The percentage of students with strong critical thinking disposition had gone up 2.8%, to 16.1%, and students with the total score in between 280-350 had climbed 8.3%, to 70.6%, and students with the total score below 280 had dropped 11.1%, to 13.3%. Students with a positive critical thinking disposition had increased 11.1%, from 75.6% in the pre-test to 86.7% in the post-test. The increase of average total score and the number of students with positive critical thinking disposition had revealed the improvement in students thinking ability.

4.3.2 Sub dimensions

Table4- 31 Average Scores of Sub Dimensions

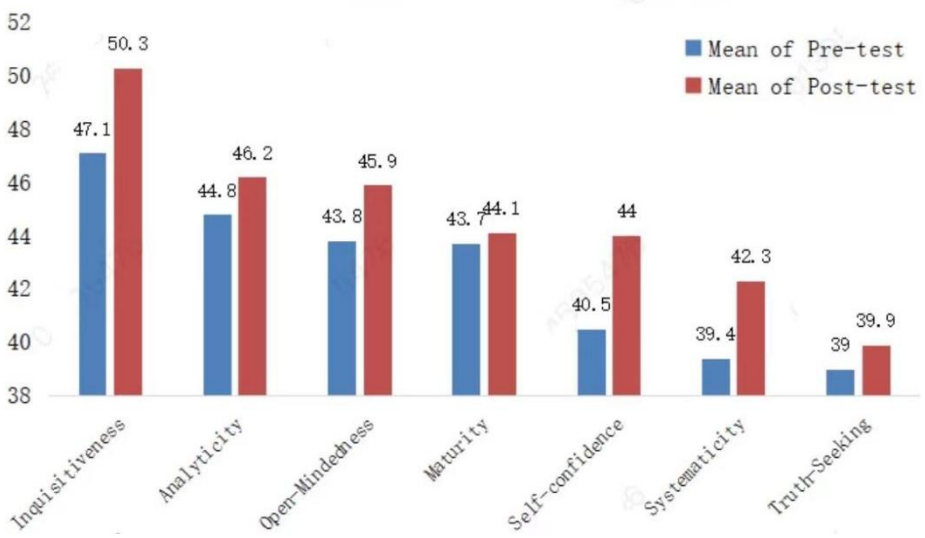


Table4-31 showed the average score of certain types of questions which reflected the students certain sub skills of critical thinking. Growth can be seen in all sub dimensions, and among them, the biggest increase was in the self-confidence related questions, which increased 3.5 points. This change was in accordance with the data in the questionnaire, interview and classroom observation. Students' confidence in thinking can help form the new thinking habit and improve the thinking ability. The second most was the inquisitiveness related questions, which climbed 3.2 points. And it also shared the similar trend in the questionnaire data. Students in the post-test admitted that the frequency of asking questions and having different opinions had risen. The increase in systematical questions ranked the third, which got 2.9 points

growth. Analyzing the reasons, on one hand, it may be due to teachers' training of systematic skills in critical thinking. And on the other hand, when students were assigned comprehensive tasks, they need to systematically consider the redistribution of tasks and the aggregation of final sub-tasks, so that students' systematical thinking ability had been improved in the conducting of complex tasks.

4.4 Data analysis of classroom observation

4.4.1 Pre-research data:

Before the research started, there were several obvious phenomena in the classroom teaching of college English intensive reading:

Classroom atmosphere was dull. Some of the participants sitting at the back of the classroom were sleeping, and several participants were on their smart phones. Teachers were giving lectures against the PPT, and there were few classroom activities and interactions. The participants did not have a sense of tension and pressure, so they were relatively relaxed and unable to concentrate. Participants' inattentiveness leads to low classroom efficiency. When the teacher asked the question that was explained just now, only the participants sitting in the front could recall it, and the other participants did not seem to have heard or remembered what the teacher just explained. At this time, the teacher had to repeat the explanation just now, which wasted a lot of time.

The classroom was a teacher-centered classroom, not a student-centered classroom. Although the teacher kept asking questions in a class, most of the questions were self-questioned and self-answered. Only a few participants sitting in the first two rows answered occasionally. The rest of the questions were unanswered, and there was a short awkward silence in the class. After that, the teacher answered by herself. Although teachers encouraged participants to speak in the form of asking questions, the actual effect was poor. Even participants who occasionally answer questions were not confident, answering in a low voice, and the language organization was not good. In the class, during the time for participants to think, some participants yawned, some participants were on their smart phones, and some participants were reading the text that supposed to be previewed before the class. During the time for participants to discuss, some of themwere using their native language to communicate something that had nothing to do with the class.

Participants showed no desire for knowledge. Participants seemed to be

learning passively, and their curiosity knowledge cannot be seen in their eyes and actions. This attitude of the participants also affected the enthusiasm of the teachers in teaching. Frequent lack of feedback made teachers lost enthusiasm when teaching. Teachers who have been hit again and again have gradually lost their motivation to design classroom activities. Participants' lack of motivation to study and participants' lack of thinking were reciprocal causation. Because there was no desire to learn, participants were lazy to think. The lazier they became in thinking, the more they got used to this state, and the less interested they had in learning. In the classroom, after the teacher asked a question, the participants habitually kept silent, waiting for the teacher to answer or other participants to answer, and there were only a few participants who try to answer the question. In order to encourage participants to participate in the classroom, about 80% of the questions raised by the teachers can be found answers in the textbook, or the answers can be found after a little thinking. However, there were still participants who showed indifference to the questions. What's worse, some participants even did not know what the question was when they were called by the teacher to answer, and they had to turn to their classmates for help. The participants who often answered questions also exposed some problems such as: incomplete answers, unclear arguments, and insufficient arguments, poor language organization, unable to find key points, and wrong answers, etc. Nonetheless, teachers gave these participants affirmation and praise for encouragement.

The low completion of homework affects classroom teaching. The new words and expressions in each unit were left as homework for participants to recite after class. When dictating words and expressions in class, most participants were plagiarizing, and only a small number of participants can dictate independently. When the teachers were analyzing the text, the participants showed that they were unfamiliar with the text. The task of previewing the text was also assigned to participants in the form of homework in advance. The exercises of each unit were homework, too. When the teacher checked, there were still participants who had not completed it. A few minutes before class begins, some participants were found copying answers from their classmates. Participants cannot complete their homework on time, which directly affects the progress and effect of the teacher's classroom teaching.

Group discussions are not as effective as expected. In the classroom teaching, although the teacher designed some group discussion activities, it did not achieve the expected effect. Through observation, the problem is mainly concentrated in the

following aspects: First, the grouping is unreasonable. Students with a good foundation and those with a poor foundation are not evenly distributed to each group. In this way, some had heated discussions and then entered a waiting state after drawing a conclusion quickly. At this point they may wander off or start discussing topics not related to the classroom. Other groups were collectively silent or unable to conduct effective discussions. These groups need further illustration from the teacher; however, the teacher had limited time to take care of all the groups that need her. Second, the order of the topics discussed did not conform to the cognitive law. The discussion tasks assigned by the teacher to each group in the classroom varied in difficulty but were not designed in an order from easy to difficult, and the time limits was not adjusted according to the difficulty of the topic, and almost all of them were given 5 minutes. This led a situation that the time was either left or not enough. When time was left, some students went distracted. When time was not enough, discussions could not be able to draw conclusions, and some students stopped discussion and showed frustration, others continued their discussion regardless of the teacher's stop instruction. The jump in difficulty also made students' thinking not progressive, which somehow reduced the teaching effect and classroom atmosphere. Finally, the instructions for the steps of the group discussion and requirement for the presentation of the discussion results were not sufficient. When the teacher assigned the discussion tasks, it was too general, and did not explain the specific discussion steps, or how to show the discussion results. This led to a lack of organization in the group discussion, and students cannot quickly discuss under the guidance of the discussion steps and come to the results. After the discussion, a clear discussion result cannot be formed. Students can only get a general answer, some were verbal, and some were written. Inconsistent presentation of the result made the results collecting more difficult and more time consuming.

4.4.2 Post-research data

The post-research data was collected at the end of the research semester. Classroom observation was not taken during the whole process of research; however the two teachers and the researcher do hold meeting after each unit. Problems the teachers met during their teaching were discussed and the teaching design for the next unit was improved.

The classroom atmosphere is more active. Classroom teaching activities were

made up of various tasks in series, and students actively or passively participated in the tasks. Although there were still PPT presentations in the classroom, some things were done by the teacher and some by students. Not only did the teacher have to explain, students also needed to explain on the podium. 70% of the content of the teacher's explanation was giving after the students' group discussion. At this time, the students were more familiar with the content of the teacher's explanation, and their attention was more concentrated. In the face of the tight classroom rhythm, many students had no time to take out their smart phones. Because the tasks assigned in the group were relatively clear, each student had a task, and the number of students sleeping in class had also decreased. Every student was get involved in the new teaching mode, and more students can benefit from the classroom teaching in which they themselves would like to join.

The classroom is more like a student-centered classroom. The number of questions that teachers ask and answer by themselves was reduced, and many questions were designed into tasks. Answers were found through group discussions, and reports were formed by groups and presented to the class. Teachers were mainly classroom organizers, assisting students in group discussions and presentations, guiding students' critical thinking, and helping students achieve learning goals. The leaders of each group showed enthusiasm and organization, and played an active role in the group discussions. Each team member participated in the discussion with their own tasks, so they are more engaged, more purposeful, and more efficient in learning. Students demonstrated a more important and prominent role in the classroom under the new teaching mode.

Participants answered questions actively. In the lead-in activities, the participation of students was very high, and each group competed to make presentations. The students listened carefully to the teacher's requirements and instructions when the teacher was assigning group tasks. Students who did not understand can be seen raising their hands to ask questions. During group discussions, most students were full of energy and different viewpoints were expressed. Group members also asked questions or asked for help while the teacher was on patrol. After the discussion, each group voluntarily presented the results of their own group's tasks, and the exchanges between the groups were lively. In the final teacher's summary, most students in each group listened carefully and toke down notes. Teaching students to think is one thing, encouraging them to speak up is another, and students benefited

both in the English intensive reading class.

The higher completion of homework brings the efficiency of classroom learning. The students completed the preview and review tasks assigned by the teacher well. Before the class, the group leaders are still checking and evaluating the assignments of the group members. Because of the students' sufficient preview, the students in the classroom can quickly reflect the new words and phrases, are very familiar with the content of the text or exercises, and interact with the teacher in a timely manner. There are very few awkward scenes in the cold field after the teacher asks questions. The more quickly students responded, the faster teaching pace was, and the more abundant classroom activities were. Students had a strong desire to present their homework. The teacher asked questions and reviewed assignments from the previous lesson in the next lesson. After completing their homework on time, the students can show their achievements in class, and pride can be seen on their faces after being praised by teachers and classmates. The peer evaluation system of the new teaching mode stimulated students in carrying out their personal homework and group tasks.

Group discussion activities were the highlights of the classroom teaching. When assigning group tasks, teachers gave specific instructions on the overall requirements, completion steps and presentation form of the tasks. After receiving the task, the team leader can quickly decompose the task, refine the task, and assign it to each member of the group. After completion, each member reported to the group leader and everyone discussed and summarized together to form a final conclusion, which later presented to the whole class in the form required by the teacher. During the group discussion, the communication among the group members was close and enthusiastic; the group leader organized in an orderly way and each group member had a task at hand, so there was no slack. During the group discussion, there were students who occasionally took out their smart phones. They should be looking up new words or materials because they were taking notes against their phones. After the group task was completed, the group members evaluated each other's performance and hand it over to the teacher at the end of the class, which also motivated the students to participate more actively in the class. Training critical thinking through group tasks gave students freedom and brave to practice the skill and made classroom teaching more effective.

The training of critical thinking skills was added to the classroom teaching

and the answers from the students reflected their thinking. When the teacher explained critical thinking skills, their method was direct and simple, and they cannot well arouse students' interest and attract students' attention. But when the teacher used examples to train this skill, almost all students were more focused and can follow the teacher to finish the example, and about half of the students took notes in this session. In between the training of critical thinking skills and starting to teach in textbooks, there was a lack of natural transition. Teachers have designed the training of critical thinking skills into group tasks, and students can experience the cognitive process from theory to practice in the classroom. The students' answers to the teacher's questions were simple and clear, often reaching key points. When the group reported the discussion results, the content was complete, the arguments were clear, and the reasons supporting it were adequate. Although there were different conclusions between groups, they all make sense and based on evidence. So each group could address their conclusion clearly. This data can answer my research questions that participants' critical thinking abilities can be developed under the new teaching mode, and this ability can also further their understanding of the reading text.

4.5 Data analysis of the interview

As mentioned in chapter 3, 18 students were chosen to conduct the interview from the six classes. In each class, one student whose English intensive final exam score of the research semester is ranked in the top 30% and one whose score is in the middle 30%, and one of the bottom 40%. These 18 participants basically covered participants at all levels, can reflect the teaching effect of the classroom from different angles, and can also point out some points that need to be improved. The interview was semi-structured, and five fixed questions were listed and additional questions were asked for digging out students' previous answer. The five listed questions were:

1. What is your deepest feeling about the college English intensive reading class this semester?

The students gave positive feedback on this issue. It is mainly reflected in the changes of classrooms and the changes of students.

First, classroom changes. Students think that the classroom atmosphere of college English intensive reading this semester is better than the previous one. Before answering questions, students have the opportunity to communicate with team

members and have time to think. Students feel more confident before answering questions, the classroom is more democratic, and everyone has the opportunity to express their opinions. One student said "I feel that the classroom is more open, everyone is encouraged to speak, and in the group discussion, there is no fear of being laughed at if they say the wrong thing. It seems that the classroom atmosphere is very relaxed, but the pressure is not small, because there are tasks all the time." And another one said "I don’t reject English classes so much anymore, because my English level is not good, I used to be especially afraid of the teacher asking me questions in class. Now I'm not afraid, because I can participate in group discussions, and I can ask my classmates if I don't understand."The teacher's explanation in the classroom is less, but the focus is more prominent. As one mentioned"The teacher has been talking about it before, and we don't know what the point is. Now that the teacher talks less, we listen more seriously, and we know that what he is talking about must be the key point. And now we have a discussion process, and we have a better understanding of the questions raised by the teacher."The design of group tasks and the system of mutual evaluation among group members have put pressure on each student to participate in the classroom. Fewer students are sleeping or on mobile phones, and the participation of these students in the classroom has also been improved. A participants said "This semester, everyone is very happy in class. There is less time to play with mobile phones and less time to sleep. I feel that our group will not be able to leave me. I have to do something for the group."

The changes of students are mainly summarized in the following points. Firstly, students' attitudes towards English classes have changed. Students who used to reject English classes can now accept it, and they don't feel tortured, but feel that the time in class passes quickly. For example, one participant admitted "I always felt that the time in English class passed very slowly and was difficult to endure. But for this semester, I feel that a semester has passed very quickly, and I also feel that time has passed quickly in class." Secondly, students' sense of responsibility and collective honor is stronger. As members of the group, they are afraid that their performance will affect the completion of the group's tasks. So, everyone is doing their part. The task assignment of the team leader is also more reasonable, which can give full play to the strengths of each team member, so that the team members gain a sense of accomplishment and gradually become more confident. Just as one student noted "In order not to hold back the group, I have prepared the lesson well in advance."And

another student mentioned "Although the task assigned to me is not difficult, I also want to complete it well and do not want others to look down on me. What I can do now is something I never thought about before, I hope I can be a team leader next semester."Finally, students realize the importance of thinking, and are no longer satisfied with being able to answer the teacher's questions and complete the exercises after class, but realize that only by scientific thinking can they achieve a deeper understanding. This is also the focus of this study; however, only 22% of the students interviewed mentioned this. For example, a student expressed "I have always liked English class very much, because I think English is not difficult, I can basically ask the questions asked by the teacher, and after-class questions are not a problem for me. I have a great sense of accomplishment in English class. But through this semester of study, I now know that the answer to the question is superficial, and I have to think more deeply. At this time, it is not a language problem, but a way of thinking."

2. What do you think your teacher care about most in college English intensive reading classes? Or what does the teacher often emphasize?

Most of the interviewees gave more than one answer to this question, and "critical thinking" was the first phrase referred to by all the 18 interviewees. 14 interviewee mentioned "group task" which was in correspondent with the topic of this dissertation *TBL Strategies for developing students' textual understanding and critical thinking abilities in an English intensive reading class.* Task-based teaching is the main approach in this study and critical thinking ability is the key objective. 8 interviewees mentioned that the teacher always asked them to express their opinion with others and encouraged them to ask questions both in and after class. "Skill" and "habit" were also emphasized by the teacher, too. Students were given the training of critical thinking skills, and were told the importance of forming critical thinking habit. 3 interviewees thought that the teacher cared more about students' behavior rather than result. As one interviewee said "Students who actively think and express their opinions in class are often praised by the teacher, even though sometimes the answers given by students after thinking are wrong. So I think, rather than the result, the teacher pays more attention to the process, or our attitude and performance." 2 interviewees mentioned that "the teacher cared about not only the content of textbooks, but also critical thinking. Every lesson has content training on critical thinking, so we all know that critical thinking is important, it improves our cognitive

and judgment skills. Most of the time in class, we are studying the content of the textbook. After all, the exam will base on the content of the textbook, so I think both these two are the key points."

3. How do you feel about working in groups to complete tasks? Did you encounter difficulties when you were the team leader? How did you solve it? Do you have any tips for organizing group activities?

8(44%) interviewees described the group task as "interesting" because instead of bald self thinking, group tasks provided them a chance to think together, and to be sparkled by other group members. One of them said: "If students are asked to complete each task by themselves, it is the same as teacher asking and waiting for us to answer. Usually, after the teacher asks the question, no one makes a sound, even if the students know the answer. In the end, it is the teacher who answers the questions by themselves. So the English class in the past was very boring. The more boring, the more sleepy everyone was. Many students would pass the time by sleeping or being on smart phones. Now it is interesting to complete tasks in groups, what's more, students also have the right to evaluate each other, so everyone seems to reflect their own value." This showed that the group task in the teaching mode of learning can play a role in activating the classroom and arouse students' interest and enthusiasm in learning. Another interviewee said, "The group tasks led to group discussion which is so interesting that I have never knew that there would be so many interesting viewpoints and ideas on a single issue. Some viewpoints are very novel to me, and people often think from different angles. Again, everyone's experience is different, so the diversity of answers broadened my horizon." 5(28%) interviewees said they found it helpful. They felt that the assignment of group assignments helped improve classroom participation. One of them said: "My English is not good, so I never dared to answer questions in class. I was afraid that my teacher would criticize me and my classmates would laugh at me if my answer was not correct. Now we have all learned some critical thinking skills. Trying to use these techniques, plus the relaxed atmosphere of the group discussion, I can try to express my point of view. Everyone's point of view is different, and there seems to be no absolute right or wrong. There were new words or complex sentences that affected my understanding of the text, and now I can ask for my group members, which helps me a lot." The student's answer also reflects the positive impact of group tasks and critical thinking training on

classroom teaching. An interviewee said: "Although the group discussion looks lively, I think it's a bit of wasting time. I'm still used to the teaching method that teacher talk more, especially for detailed information, we listen more and take more notes, because this teaching efficiency is high. Students who have the desire to learn, no matter what the teacher teaches, he can learn. Students who don't want to learn, no matter what method the teacher uses, he will not learn. Why should we sacrifice the time of students who want to learn to persuade those who don't want to learn? Although such a class has some effects, that is, it trains our thinking, but this is not what an English class should do at all. The university can provide optional course for students who need it."This interviewee said something that others were afraid to say. He acknowledged the usefulness of critical thinking training, but felt that it should be taught separately, rather than taking up English class time. This will be explained in detail in the next chapter.

For the difficulties encountered when being a group leader, the following aspects were summarized:

Sub-tasks cannot be allocated properly. After receiving the task of the teacher, the task needs to be split. Some tasks need to be split at the same level and divided into several sub-tasks of similar difficulty. For example, the task of a group is to find the central sentence and keywords of the whole text, and the sub-task is that each group member is responsible for several paragraphs. Such a task is easy to assign. There is also a task, such as drawing a mind map of the text. Then the task of splitting is not in a difficult level. It requires team members to analyze the structure of the text and find the internal logical relationship. There are team members who summarize the content of each part, who draw pictures, and who are responsible for explaining and displaying the mind map. Such tasks are not easy to assign, because at the beginning, the team members did not know each other very well, and they did not know what kind of tasks each team member was good at, and the assignment was often unreasonable. After everyone got familiar with each other, the problem was solved.

One group leader told that when a group of students takes the initiative to undertake sub-tasks, most of the students can accept the sub-task according to their own abilities, but there are some students who always want to get simple tasks, not because of their lack of ability, but because of laziness. Some students, because of their personality, always ask for sub-task that does not need to be verbally expressed. As the team leader, I hope that everyone can do their best and accept the challenges of

various tasks, but in fact it is difficult to do so. "There are also some students who bring their personal feelings into group activities," another group leader mentioned. For example, there is a conflict between student A and B, and the private relationship is not good. During group discussions, no matter what opinion A expresses, B tries to criticize it. If C and D are good friends, they will back up each other unconditionally. This puts an extra burden on the team leader and wastes the time of all team members. The teacher said that critical thinking is not to criticize for the sake of criticism, but some students are doing unnecessary criticism.

Regarding the suggestions for group tasks, all the 18 interviewees all said that they should take turns to be the group leader, so that everyone can understand the difficulty of the group leader, and also let the group leader know the problems that the group members will encounter. There are also 9 (50%) suggested that some tasks can be arranged before the class and left to the group as preview assignments, so that there will be more time and tasks can be completed better. Another 6 (30%) interviewees suggested that during discussions, ideas that cannot be expressed in English should be allowed to be expressed in Chinese. Because some students have good ideas, but are limited by language and cannot fully express themselves. These recommendations need to be prioritized in follow-up research.

4. If you were a teacher, what other changes would you make in the English intensive reading class?

The interviewees (student-participants) first affirmed the new college English intensive reading class, believing that it is indeed different from the previous English class, which can make everyone have both pressure and motivation, seemingly relaxed and happy, but also full of content. Although they all expressed their love for the new classroom, they also gave some pertinent suggestions to improve the new teaching. Recommendations mainly focus on the following areas:

Move the classroom outside. One interviewee said: "For the subject of English reading, I prefer to take classes outside the classroom, such as in the park, on the school lawn, under a big tree, or even in a coffee shop. If reading classes can be taught in these places, I will be more relaxed, because these places are the places I usually like to do the reading." Another interviewee said: "Learning outside the classroom will make me want to read more actively than passively. I'm more daring to speak, and I won't feel pressed by the classroom. " One interviewee said that only

the English class had a lively atmosphere at the moment, and other courses, especially the science courses, were very dull, so he hoped that the English class can go outside and let everyone relaxed. One of the reasons is: "Newton sat under an apple tree and discovered the law of gravity. I also want to sit in the shade of a big tree on a hot summer day to train my critical thinking."

Put more tasks before and after class. 7 interviewees suggested that in-class tasks should be moved out of class. They said that the time in the class was limited, and it was difficult for everyone to stop when the discussion starts, and they always felt that there was not enough time. Each class can only complete about 6 tasks. If each group explains the discussion results of its own group, then the time will not be enough. The discussion process can be transferred to the time before and after class, and only show the discussion results during class. In this way, there will be plenty of time, more students will have the opportunity to show, and the teacher will have more time to comment, which will make everyone feels more accomplished. Some people also said that they can barely express their opinions in English in class, but it was difficult for most students to demonstrate their thinking process in English. So I hope that the discussion process can be put after the class, so that everyone can speak freely. It is the real discussion that can be fully expressed and fully understood.

Distribute the theoretical content of critical thinking to students for self-study. 4 interviewees suggested that the theoretical content of critical thinking and some training content of critical thinking skills not related to the English intensive reading course should be distributed to the students for self-study before class. A lot of time can be saved by learning English while training in class. One interviewee mentioned: "If we can learn critical thinking through self-study before class, then we will be able to use these skills unconsciously in the learning of various subjects, which will be very useful for our learning in other subjects." Another interviewee said: "I am a student with weak receptive ability. I learn everything slowly, and it takes some time to digest it. As soon as the critical thinking skills are introduced in the class, I was required to use it immediately in the tasks. It's too difficult for me to use, and I can't keep up with it." This suggestion is worth adopting, however, a survey has to be conducted for investigate whether students have the time to go through those learning materials outside the classroom and whether they have the competence for self-study.

5. What pressures or challenges have the changes in classrooms and test content brought to you? What kind of help is needed?

From the data, some pressures and challenges have been pointed out, and mainly focus on the following aspects:

The pressure of preview has increased. The interviewee said: "Last semester, it doesn't matter if you don't preview the English class, and you won't be called up to answer questions in class. Even if you are called, you say sorry." It's different now. The group leader checked everyone's homework before class, and if we didn't prepare well, we got a warning and it also affects the efficiency of the group discussion.

Attention must be paid every second in class. I used to be able to sleep, be on my phone, and distract myself in class, but now I don't have time to do these things. It is difficult to complete group assignments within the time given by the teacher, let alone do other things. The stress of the nerve brought pressure to students.

The language requirements are high. Interviewees expressed that in today's English class, everyone had to express their own opinions, and sometimes they need to give evidence to support their opinions or explain the thinking process. This is too difficult for students. Expressing themselves accurately in English is a huge challenge they are facing now.

Changing the way of thinking is a huge challenge. The interviewees said that their thinking habits have been formed, and although they now recognize the advantages of critical thinking and the necessity of forming this habit, it is still difficult to change and requires a period of intensive training. In each class, the teacher taught some critical thinking skills, and during that class, students kept reminding themselves to use the skills they had just learned to recall the skills they had learned before, all this brought huge pressure.

The extracurricular reading and the subjective question in the exam are a challenge. The original English exam was based on the content of the textbook. Without attending the class for a semester, as long as you can memorize the answers to the exercises in the textbook before the final exam, students can pass. A interviewee said: "It's different now. There are articles for extracurricular reading in the exam, and subjective questions are also added. Subjective questions require a lot of thinking and language organization, which also puts a lot of pressure on me. Not only do I need to study textbook content and thinking skills carefully in class, but also need to

accumulate new words and improve my language skills."

Your own abilities affect group performance. One interviewee admitted that his English ability was very poor, and he had given up learning English since the first year of high school, so no matter how much he tried to keep up with everyone's pace, he couldn't do it. He admitted:"I didn't speak in class before, and I recited the answers before the exam, and I could pass, and my ability would not affect anyone. Now I don't think anyone can help me, including myself, can you not put me in a group, just let me be in a group by myself?"

Teachers' testing in various ways also puts pressure on them. Some interviewees said that everyone can feel that the teacher wants to see everyone's progress, but the various tests put a lot of pressure on the students, and they were afraid that their performance would not meet the teacher's requirements. In the questionnaire, they can also feel the answers the teacher expects. Although they knew that what the teacher do was good for them, they hope that the speed can be slowed.

To question the textbook or the writer is a big challenge. Students believed in textbooks so much that they never dare to question them. From primary school they had been taught that textbooks were authorities, and what was chosen to be the content of textbooks must be perfect. One interviewee said: "We know that the writer of the text may have time limitation, so the idea expressed in the text might not be right nowadays. And the logic or the argument might not be reasonable. So now, to question the writer, the textbook, even the teacher is a new challenge for me. Sometimes I felt impolite to question them, and I am trying to overcome such feeling now."

Oddly enough, except for one who asked for the help he needed, the other interviewers said nothing was needed. Whether the interviewees were embarrassed to say it, or was afraid of embarrassing the teacher, or whether they thought this is just a formalist question, is unknown.

Chapter 5 Discussion

In the previous chapter, data from questionnaires, tests, exams and interviews were listed and analyzed, however the influential factors for the data trend have not been revealed in that chapter. So, the purpose of this chapter is to show the findings of this study, including findings related to research questions and overall findings and some limitations of this study. The effectiveness of Trilogy Teaching in improving students' critical thinking can be shown through some changing in the participants. New teaching mode brought changing in the classroom, and the changing brought deeper understanding to the reading materials as well as new thinking mode and other benefits.

5.1 Findings related to research questions

5.1.1 Findings for RQ1.Why is it important to improve participants' critical thinking skills?

For my first research question, this study found several prove to show the importance of improving participants' critical thinking skills.

To improve student participants' critical thinking skills is urgent and quite necessary. The data of Table4-1 and Table4-2 showed that so many student participants had no question to ask neither in English intensive reading class nor other classes. Without thinking, how can they have questions to ask? From the classroom observation, the quiet and dull classroom atmosphere even made the researcher feel sleepy. And the data of the exams also showed that critical thinking skills were much important than reciting the answers for the exercises in their textbook. In this aspect, this study's original contribution to knowledge is that it enables the students to acquire the knowledge instead of memorizing knowledge.

5.1.2 Findings for RQ2.What are the benefits participants can get from critical thinking skills in English reading class?

For the second research questions, by comparing the data of pre-test and post-test, the classroom observation and the exams, the benefits participants got from critical thinking skills in English intensive reading class were shown as follows:

The frequency of student participants asking questions has increased. The number of student participants who often ask questions has increased, and the number

of student participants who never ask questions has decreased. In the pre-test, more than 50% of the participants admitted that they never ask questions. The reasons why these student participants never ask questions are as follows: First of all, the possible reason is that they are not used to thinking, so long-term passive learning makes them only sensitive to being asked questions about the subject, but do not take the initiative to find problems. Secondly, they may think and have problems, but they are not confident in themselves, and they are afraid that the questions they ask are too simple for others, which will lead to ridicule. Thirdly, they have questions and are confident that the questions are difficult enough, but they think that neither teachers nor classmates welcome questions. We were indicated by teachers' reactions since we entered the primary school that questions which cannot be answered immediately would offense the teacher and make the teacher embarrassed. Questions can also interrupt teachers' teaching procedure and slow down the teaching process. Therefore, everyone in the class was very silent, and they didn't want to make themselves different. In the end, they thought that it was a no need to ask, because it didn't matter whether the problem could be solved or not, as long as they understood the questions illustrated by the teacher, they could pass the exam. Teaching Trilogy, the new teaching mode has made some difference. For the first reason, student participant snow understand the importance of critical thinking, and they were also trained with critical thinking skills, and gradually developed the habit of critical thinking, so student participants swapped from passive thinking to active thinking, which led to student participants being able to discover questions. For the second reason, the mode of group discussion provides student participants with more free space, and the group members are more familiar and intimate, which makes student participants dare to speak out their own problems. Some of the simple questions they asked in the group are solved through discussions among the group members, while the other difficult questions will be asked by the group after the group discussion. At this time, the student participants are asking their own questions. In the interview data there is evidence of student participants being more critical in their questioning. The difficulty is assertive and presented in the name of the group, not as an individual, so that group members no longer fear being ridiculed. For the third reason, teachers have been required to encourage student participants to ask questions and speak up throughout the semester, and student participants should be able to clearly feel that questions are welcome. This is also reflected in table4-17. Therefore, this was one of the

contributions made by this study. The stereotype of Student-participants in asking questions had changed. In the English class where student participants are repeatedly encouraged, once they encounter a problem, they will no longer hesitate to ask questions. For the last reason, because of the changes in the content of the test, mere practice on the memory textbook can no longer guarantee passing the test. The content of the test adds extra-curricular reading and subjective question types, so student participants should be able to realize that learning to think and improving their reading ability is the key to learning this subject well and passing the test. To sum up, the Teaching Trilogy fundamentally solves the obstacle of student participants not asking questions, changes student participants' concepts, and promotes student participants' thinking. Those changes will benefit both teachers and students.

Student participants' preference for college English intensive reading courses has increased. The data in Table 4-3 shows that after a semester of Teaching Trilogy experiments, the number of student participants who like the course has increased by 10%. It can also be seen from classroom observations and interviews that student participants expressed that the current English classroom atmosphere was very active, and student participants' participation was very high. Because they loved this kind of course, student participants felt that the time in the class passes quickly and is fleeting. Although the number of 10% is not large, 54.4% of the participants still chose that they don't like the English intensive reading class, but it does not mean that the attitude of these student participants to the English class has not changed during this semester. Some student participants may not like this course for the time being, but they have changed from rejecting this class to accepting it. This is actually progressing. Over time, these student participants may gradually find self-confidence and find out how to learn. From indifference to presenting many constructive opinions on English class, it also reflects the student participants' respect and positive appreciation for this class. Likewise, the teacher are also trying their best to improve the current situation of classroom teaching and enrich our classroom teaching activities, stimulate everyone's interest in learning, improve the teaching effect of the classroom, so that every student can benefit from the college English intensive reading class. In addition, teachers often encourage student participants to ask questions and express their opinions also establishes relational depth between teachers and student participants, so that student participants truly feel that teachers welcome

everyone to participate in class discussions and are able to accept different opinions. This may also increase student appreciation for this English class. They gradually transferring their appreciation towards the teacher to the subject matter and developing new criticality and encouraging active discussion and participation from what was possibly quite tedious previously?

For those student participants who have always disliked English classes, there are the following possible reasons: First of all, according to the interview data, some classmates said that he had given up learning English for many years, so no matter what method he used to mobilize his enthusiasm for learning, it was useless. He couldn't understand what the teachers and classmates were saying. For such student participants, taking English classes is torture. In the original English class, everyone did not feel awkward keeping quiet. And being passive was quite comfortable and normal. He could do what he liked in class, and his classmates and teachers would not pay too much attention to him. He was just one of a lot of silent student participants. But in the current English class, everyone is actively completing tasks. For such student participants, teachers need to spend more time after class to give them guidance, so that they can master the method of self-study and catch up with everyone's pace as soon as possible.

In addition, you can ask the team leader to assign them suitable tasks when arranging tasks, so that they can also have a sense of achievement and gradually find their confidence in learning. Secondly, some student participants, especially science student participants, do not like the intensive reading courses in college English. They tend to be top student participants with good grades, including English, but just because they can do well in a subject does not mean they like it. They have their own solid knowledge base, their own learning methods, strong logical thinking ability, and obvious subject bias. Their indifference attitude in college English intensive reading class did not affect their learning effect. These student participants often write science assignments and research science issues in liberal arts classes they don't think are important or like. For such student participants, teachers need to make student participants feel the charm of liberal arts knowledge, so that science student participants can both have the ability to think critically and to learn with passion. To show the charm of liberal arts, teachers can show the power of language to science students through the words in the reading materials, or collect some reading materials related to science students' majors, so that science students can acquire certain

professional knowledge while learning English.

Finally, there are some student participants who are accustomed to the traditional classroom teaching method, that is, the teacher talks more, the student participants who want to listen more, the student participants who don't want to listen do not listen, everyone does not interfere with each other, and learning or not learning depends entirely on self-awareness and understanding in the learning process. In the interview, some student participants also said that the new teaching method has indeed improved the classroom atmosphere and mobilized the enthusiasm of everyone to participate in the classroom, but it also wastes time because the teacher has less time to talk. It appears that there's a resistance between what the teachers prioritize and what the students are expecting. Students may be too dependent on their teachers and that's why the perceptions of the learning process must be shifted to promote autonomous learning. These student participants only focus on the immediate interests and do not really realize the potential benefits of the development of critical thinking skills, so they do not like the current intensive college English courses. For these student participants, teachers need to guide student participants to consider their long-term interests and maximize their critical thinking ability on the premise of ensuring vested interests. Of course, there are other reasons why student participants don't like college English intensive reading classes, such as poor teacher-student relationship, student participants' personality reasons, and also the level of students, etc. These are all issues that need to be discovered and paid attention to in future teaching.

Critical thinking skills can indeed help student participants further understand the text and the Teaching Trilogy implemented in the English intensive reading class had a positive influence in forming critical thinking habit. As Song (2019) discovered in her research, student participants' critical thinking can be cultivated through certain teaching design in a reading class. We, as Chinese EFL teacher, should not continue with exam-oriented education, but pay attention to the cultivation of student participants' critical thinking ability as well as their language knowledge and language skills. We are not teaching to the test, but equipping students with a range of critical skills to help them when encountering new problem-based learning tasks. In this study, Teaching Trilogy mode contains a TBL group teaching design in reading class for cultivating students' critical thinking from theory to skill, from practice to habit. From Table4-4, 100% participants admitted that College

intensive reading class can help them understand the text further, among them, 73.3% participants thought it was very helpful, while 26.7% o f them thought it had some help. Although it may because of demand characteristics that none of them denied the effect of college English intensive reading class, it can still show the change through the high percentage of participants who chose "Yes, very helpful". Not only the data of Table4-4, but also the data of Table4-10 and Table4-12 can prove that. Lu Jiuyuan, a famous educator in the Southern Song Dynasty in China, once said: "The most fearful thing in learning is having no doubt. As long as there are doubts, there will be progress. The fewer questions you ask, the less progress you make; the more questions you ask, the greater progress you make. "①He believes that being able to find problems means being able to know what you don't understand, so that you can look for answers with your questions, and finally get the knowledge through the process. Doubt leads to progress. It can be seen that asking questions can better promote learning. Reading is the same, the process of asking questions and solving them is the process of further understanding the text. In table 4-10, participants who frequently encountered problems increased by 31.6% to 64.4%. This also illustrates the role of Teaching Trilogy in promoting student participants' reading comprehension. According to the data in table4-12, the number of participants who were able to complete the exercises in the textbook independently increased, from 82.2% to 92.2%, an increase of 10%. Among them, the number of people who can complete almost all exercises independently increased by 7.8%, and the number of people who can complete some exercises increased by 2.2%. The exercises in the textbook are based on the understanding of the article and the mastery of the words. Therefore, the higher completion of the after-school exercises the better understanding of the texts. In addition, the scores of the final exam also reflect that the college English intensive reading course can help deepen the understanding of the text. Although the reformed final exam papers replaced some of the original questions in the textbooks, the correct rate of student participants also improved, from 32.6% to 51.8%, an increase of 19.2%. The situation that student participants can get great score by memorizing the answers after class has been improved because of the changing of the test contents, and student participants can only deal with various after-class questions based on the text if they truly understand the text. Finally, in the interview, some interviewees mentioned that

[①] Lu Jiuyuan quotations.

through group discussions, the group members expressed their opinions, and after the spark of thinking collided, everyone had a more comprehensive and deeper understanding of the text. This may be one of the benefits of a critical thinking classroom.

Haji Maibodi, Ashraf[①] (2015) did a research to examine the effect of critical thinking skills on reading English novels and its influence on EFL learners reading proficiency. The result of his research showed that direct instructions in critical thinking had an impact on EFL learners' overall reading proficiency which agreed with the result of this study. In this Teaching Trilogy mode, when tasks were assigned to students participants, direct instructions were given with clear objectives. For insistence, the teacher may give the tasks in this way: "First, please list out the writing strategies in this article and find supporting evidence. Then, please think about the scenario where you can implement those writing strategies. To fulfill this task, you can use classifying concluding and assumptive skills."With those clear instructions, participants can read with a particular purpose and think in a particular way, so the critical thinking skills can be trained and the reading proficiency can be improved.

Student participants' stereotypes are overturned. After a semester of Teaching Trilogy mode, the absolute authority of the teacher and the writer had been changed, so that some student participants began to question the teacher and the writer. In the past, it was a concern for students to challenge the teacher's authority. "Student's inclination towards teacher"[②]refers to the natural tendency of student participants to respect teachers, worship teachers, and be willing to accept teachers' teaching. At the primary school stage, teachers' clothes, hairstyles, walking postures, teachers' words, etc., occupy an absolute position in student participants' minds. Not to be violated or suspected. We have always believed that a teacher of a certain subject must be an expert in this field, so we are accustomed to believe that what the teacher says is correct, and the teacher is the authority. In the process of critical thinking training, student participants gradually become ordinary people, and teachers may have more professional knowledge than ordinary people, but teachers' cognition will also be affected by factors such as life experience and way of thinking, so

[①] zH.M. Ashraf, 2015. The Effect of Critical Thinking Skills on Reading English Novels. Research in English Pedagogy, Vol.2. Isfahan: Islamic Azad University, Isfahan (Khorasgan) Branch.
[②]Chinese Terms In Pedagogy, 2013, Higher Education Press.

teachers may not always be right. It should not be accepted in its entirety, but dare to question it. The data in Table4-6 shows that the student participants who thought they could not fully accept the teacher's explanation increased from 21.1% in the pre-test to 93.9% in the post-test, an increase of 72.8%. This shows that more and more student participants, after one semester of training, have changed their view of advocating the absolute authority of teachers.Table4-8 is to further verify the authenticity of the data of Table4-6. The data in Table 4-8 shows that 95.6% of the participants in the post-test believe that the teacher's understanding is not necessarily the only expression of the author's true intentions. Compared with 4.4% in the pre-test, 91.2% of the participants have changed Inherent concept, no longer advocating the absolute authority of teachers. It should be noted that this is not contradictory to the respect for teachers that we have been taught all along. While respecting teachers, we also realize that teachers are also human beings, and there will be times when they are not fully considered and misunderstood. This is a positive change, and of course, further guidance from teachers is needed to prevent student participants from resisting their professors and reducing their trust in teachers after frequently questioning teachers. While changing the blind advocacy of the teacher's authority, the student participants' view of the author has also changed. Chinese student participants have always admired textbooks, because Chinese textbooks have been reviewed at various levels, and the learning content selected by education experts and scholars selected by the state must be positive, positive energy, and perfect. During my 12-year study career, I often heard teachers say to student participants: "Look at what is written in the book, and follow what is written in the book." Because of the respect for the authority of the book, it is natural to respect the selected works and the authors of the works. In this context, getting student participants to question the author's point of view is difficult. In the new teaching classroom, teachers will help student participants analyze the background of the author's birth and the author's personal experience, so that student participants can understand that literary works sometimes have certain limitations of the times, and will also be mixed with the author's personal experience, motional tendencies or cognitive limitations. Although a semester is very short, many student participants do not have the ability to discover the limitations of the author's point of view, but from Table 4-7, 100% of the student participants believe that the author's point of view may be wrong, indicating that student participants have this consciousness at least.This piece of finding indicated that by certain teaching

approaches and classroom teaching design, it was possible to overturn students' attitude towards learning and gradually change their learning habit and thinking habit. Teachers from all subjects can try to implement this teaching mode, test the effect of it and improve it in their daily teaching

Learned to identify problems, and gradually formed new habits of thinking. Table4-10 shows that in the post-test, the number of student participants who often encountered problems in reading increased. Could it be that under the Teaching Trilogy, the student participants' thinking ability has not been improved, but has been reduced? Student participants' reading comprehension ability also decreased? In fact, it's not. It's not the case that student participants could understand the text before, but now they cannot, but for different texts, more student participants can come up with questions when reading. When asked about the frequency participants disagreed with the authors of the text (Table 4-13), participants who chose often rose by 18.2% in the post-test, those who chose sometimes rose 11.2%, and those who chose never decreased 14%. Similar data fluctuations were also presented when asked about the frequency participants disagree with teachers and classmates (table 4-14). More participants have their own opinions, which is not unrelated to the formation of critical thinking. It can be seen from the data in Table4-19 that in the post-test, 35% of the participants believed that their thinking method was very different from before, and 49.4% of the participants believed that their thinking method was somewhat different from before, only 15.6% of people feel that their way of thinking has not changed. This also reflects the role of Teaching Trilogy in developing student participants' critical thinking. Although what student participants perceive as a change in thinking does not necessarily mean that they have developed a habit of critical thinking, it can mean that a change is taking place and that student participants are aware of it. As for those participants who think they have not changed, some of them may have a certain ability of critical thinking before, so they do not feel much change, and some may have changed, but the magnitude of the change has not been large enough to be noticed by them. Other participants may still stay in the original thinking habits, they refuse to change, or still need time to change. As reflected in the data in Table4-23, only 52.2% of the participants believe that they have formed the habit of critical thinking. Although this percentage has increased 51.1% compared with the pre-test, it also reflects some problems. First of all, the duration of a semester is too

short, and it is difficult to break the habits that student participants have formed over the years. The cultivation of critical thinking needs to be continued. Secondly, some student participants change quickly, maybe they just have some critical thinking skills, but subjectively think that they have formed the habit of critical thinking. Contrary to it, some student participants have mastered all critical thinking skills, but they need to use these skills deliberately when thinking, not consciously, so they conservatively believe that they have not formed the habit of critical thinking. Third, teachers need to give time and encouragement to student participants who can accept critical thinking, but still need time to change. Finally, for the participants who refuse to change their original way of thinking, research and teachers need to work out the obstacles for changing, whether it is psychological barrier or practical barrier.

More participants dared to express themselves, and some of them even enjoy sharing different opinion. In the post-test, the number of participants who were willing to share different ideas increased 76.1% (Table 4-22), which reflects the psychological changes of the participants. The reasons for the change were analyzed through the questionnaire data and interview data. In the interview, some interviewees also mentioned that the sharing and discussion of different viewpoints has broadened everyone's horizons and provided everyone with different perspectives and starting points to look at the problem, which is more conducive to a comprehensive understanding of the problem, so as to find a more scientific and reasonable solution. As shown in Table4-17, in the post-test, 100% of the participants admitted that they were encouraged by their teachers to express their different opinions. So, as can be seen from Table 4-15, when there is a different opinion, the silent participants dropped from 90.5% in the pre-test to 13.3% in the post-test, a decrease of 77.2%. In the post-test, 89.4% of the participants who chose to remain silent were because they were not confident in their own opinions (Table 4-16). In the post-test, although all admitted that the teacher encouraged them to express different views (Table 4-17), 3.3% (Table 4-16) of the participants believed that different views might not be welcomed by teachers and other student participants. These student participants believed that the teacher encouraged them to express different views only out of form, and the teacher's heart still does not welcome different voices. This is also the shortcoming of this study, and improvement measures will be given in the next section. The teacher's encouragement dispelled student participants' worries, the group discussions tested their ideas, and the critical thinking training gave them confidence. From daring not to

express, to daring to express, to enjoying expressing, this is a positive change brought about by critical thinking training under Teaching Trilogy mode.

More scientific thinking leads to more comprehensive cognition. This finding is similar to the finding in the research of Luis Fernando (2018). He found that English learners' literary competence can be developed through critical thinking tasks in a Colombia EFL classroom. In his research, "the EFL learners were able to foster literary competence when they did critical thinking tasks, namely identifying assumptions about literary content based on the titles of the texts, interpreting implicit meanings to discover conflicts and themes, inferring meaning conveyed in images and symbols, and evaluating literary content through inquiring further and analyzing literary language"(Fernando, 2018). He adopted Numrich's (2001) Sequence of Critical Thinking Tasks; however the essence of the tasks were the same in this study, which was to provoke critical thinking habit. Except the tasks, the results were similar, too. Both the participants in those two researches had developed their comprehensive competence through the training of critical thinking. From the data in Table 4-20, it can be seen that compared with the pre-test, the number of participants who could never find flaws in arguments in the post-test dropped 23.9%. Although 73.9% of the participants still do not have the ability to find flaws, nearly 1/4 of them have the skill now, which shows that the training of critical thinking can enable student participants with the skill of identifying flaws in arguments so that they can use this skill in their writing and speaking, and it can also help student participants evaluate the argument. In this semester, there were only two pieces of argumentative texts and the training was not sufficient, so this skill hadn't been mastered by a large number of student participants. It can also be seen from the data in Table 4-21 that in the post-test, although 1/4 of the participants were able to find flaws, only 2.2% of the participants could always find supporting evidence, which was still related to the lack of training. With more practice next semester, greater change is expected to be shown. The exam data also showed that, compared with pre-exam, in the post-exam, the correct rate of fact and detail questions rose 5%, reasoning and judgment questions rose 27%, analysis and generalization questions rose 20%, vocabulary and grammar questions rose 11%, evaluation, emotion and attitude questions rose 33%. Those skills were all improved in this semester and they were all the sub-skills of critical thinking .And this data also suggested that the student participants were able to incorporate new skills into their repertoire of key skills. When referring to the data of CCTDI-CV, greater

changes can be seen.

5.1.3 Findings for RQ3.What strategies are efficient and effective for training participants' critical thinking ability?

For the third research question, certain strategies were proved to be efficient and effective for training participants' critical thinking ability.

TBL teaching approach can improve student participants' sense of urgency and responsibility through the design of tasks of various difficulty and types. In Table4-24 post test, 20.6% participants mentioned that the group tasks were one of the reasons why they enjoyed College English intensive reading class. The state where participants are always on the task and has been committed to completing the task allows participants to have a clear goal and a high level of concentration in the classroom. From the overall task assigned by the teacher to the sub-tasks reassigned by the group leader, each task was designed according to Bloom's Taxonomy and the hierarchy of thinking skills. The tasks were implemented on certain participant. The diversity and difficulty of tasks can also ensure that student participants of all ability levels can do things that suit them, have the possibility to complete the tasks, gain a certain sense of achievement, and form a virtuous cycle of learning. From the simple tasks of marking new words in the text and collecting the author's writing background, to the moderately difficult task of finding key words and topic sentences, to finding the arguments and proves in the article, summarizing the writing strategies, and drawing the inner logical structure of the article, to difficult tasks such as mind mapping, those are the basis and carrier of critical thinking training for participants. In order to complete these tasks, student participants need to mobilize their own thinking and use the critical thinking skills introduced by the teacher to find ideas for completing tasks and develop the habit of critical thinking. Compared with the embarrassing situation in which the teacher asked questions one by one and no one answered in the previous college English intensive reading class, in the current classroom, the teacher collects several questions according to a certain internal relationship, and then sends them to the student participants in the form of tasks to each group. In this way, the subject of the task is clarified, and there is no need to worry about whether there will be no answers from the classmates, or invalid interaction of the teacher's self-questioning and self-answering. Moreover, a number

of problems at the same level that are inherently related are combined for student participants, which is beneficial to help student participants form continuous thinking and better serve the training of critical thinking. There are multiple internal connections, and questions at different levels are arranged for student participants in an order from simple to difficult, which can also gradually promote student participants' thinking process from shallow to deep, better understand the text and form a habit of critical thinking. The biggest barrier for adopting a more reflective approach to thinking tasks was their ingrained thinking habits. So it takes time for making changes.

Completing the task in the form of a group discussion provides the participants with relatively free thinking space for developing their critical thinking ability. In Table4-9 post-test data, nearly 90% of the participants admitted that group discussions were helpful to their learning.10.5%of participants found group discussions unhelpful. The reason these participants felt unhelpful may be as follows: some of them were introverted and not sociable. Such people preferred to think and solve problems on their own, and would rather not ask others for help, and they are reluctant to show off for the problems they know. There was also a group of people with poor learning ability or poor English language foundation. They felt inferior during group discussions, so they just wanted to hide in the corner of the classroom quietly without attracting anyone's attention, or even expected to be given up by the teacher and the group. There was another type of person who had strong learning ability and a high level of English language foundation, but they were selfish and thought that other student participants were his competitors, so he was reluctant to share his ideas and knowledge, for fear of providing help to his opponents. Those people believed that group discussion not only unhelpful to their learning, but wasted time and held back their learning. In the post-test data of Table4-11, 83.9% of the participants believed that they could be motivated by teacher-led activities, so as to better participate in the classroom. It was not difficult to find in the teacher's observation that the student participants' thinking had indeed been triggered, the classroom atmosphere was active, and the student participants were actively thinking and discussing. From the post-test data in Table4-24, 22.8% participants mentioned that they enjoyed the hot discussion in college English intensive reading class. When being asked the suggestions for this class, 25.6% participants (Table4-25) asked more time for group discussion. Then, why do they enjoy group discussion so much and

how does group discussion worked? As it referred in the classroom observation data, group discussion activities were the highlights of the classroom teaching. First of all, the scope was small, the number of people was small, and there was no fear of losing face. In group discussions, everyone can verify their opinions on a small scale as long as they try to express their opinions. Discussions among classmates were relatively relaxed and casual, and there was no fear of losing face in front of the class or being corrected by teachers because of their wrong answer. Secondly, the group members were relatively equal, and they were more daring to express their own opinions and argue the opinions of other group members. For some student participants with poor English language foundation, with the help of other student participants in the group, they can understand the literal meaning of the article, which lays the foundation for a deeper understanding of the article and the training of critical thinking. Without the group discussion session, these student participants may not be able to enter into a deeper level of learning and thinking. Third, the different life experiences and thinking habits of the student participants in the group led to different perspectives, depths and breadths of understanding in problems. Only by group brainstorming can we analyze the problem more comprehensively and finally solve the problem more scientifically. Finally, the competition between groups gave the group members a sense of collective honor, mobilize their sense of ownership, and each group member had the desire to contribute their own strength. All of these were reasons why student participants enjoy group discussions, and were also a positive environment that drives student participants' critical thinking habits. This finding is similar with the study Fung and Dennis (2016) did. Their study was to determine whether the incorporation of group work in a teaching intervention can effectively foster student participants' critical thinking skills. "The findings illustrate the efficacy of group work, relative to whole class instruction, in helping student participants develop critical thinking"(Fung & Denis, 2016). While affirming that group activities are beneficial to the formation of critical thinking, we cannot ignore the role the teacher played. The effectiveness of group activities was inseparable from the teacher's design of the classroom teaching, the teacher's instruction of the task, and the teacher's timely help during group discussions. In addition, Schellens (2009) and his group had found that "discussion groups can promote student participants' critical thinking in general and the critical thinking processes during problem identification and problem exploration, in particular. More specifically, it appears that requiring student participants to reflect on the type of thinking in their contributions stimulates more in depth and focused

contributions and, more frequent input of new problem-related information and new ideas for discussion"(Schellens, 2009). Although Schellens' research was done in the field of asynchrony, the findings was similar with this study that group discussions can lead to higher classroom participation and more collision of ideas, and can create a better environment for critical thinking.

5.1.4 Findings for RQ4.How are participants' critical thinking abilities developed through the research?

These teaching practices related to the work of Beaumont(2010) and Numrich(2001). My finding, in particular, reinforced the conclusion of John Beaumont. Numrich put forward the Sequence of Critical Thinking Tasks, while John "presented a sequence of seven critical thinking tasks, a flexible framework that acts as a practical tool for planning and developing level-appropriate classroom materials that encourage and advance critical thinking"(John, 2010). In this study, Teaching Trilogy mode which also contains a free framework for planning teaching was constructed with TBL approach. All the tasks designed in the Teaching Trilogy mode were interlocked and aiming for developing critical thinking skills. Although the tasks were not following Numrich's sequence, they were designed and arranged from easy to difficult, in accordance with the skills taught in each teaching period and were suitable for the reading materials. For the fourth research question, the participants' critical thinking abilities developed in the following way through the semester of implementing Teaching Trilogy in college English intensive treading class:

The teacher's introduction to critical thinking theory in each class allowed participants to understand the concept of critical thinking and the importance of critical thinking in lifelong learning. After the student participants had the critical thinking awareness, through the training for each sub skill, the participants had a more specific understanding of the critical thinking skill taught in each class and have a preliminary attempt to use the skill. In the following classroom activities, teachers further strengthened the use of the certain sub critical thinking skill and the comprehensive use of various skills learned before through the arrangement of various types and difficulty of tasks.

Student participants' 4D learning mode provided student participants with time to think and different levels of thinking. The 4D learning model means that

student participants follow four discussion steps as they reading the text: The first step is to discuss with the author, ask questions about the text, and try to think about the problem from the author's point of view. The second step is to discuss with yourself, that is, to think about possible answers to your questions based on your own knowledge and understanding. The third step is to share your own questions and ideas, and discuss with the group. The fourth step is to discuss with the whole class and the teacher. The process of thinking is not achieved overnight. For college student participants whose thinking habits had been relatively fixed, it was necessary to provide student participants with a certain amount of time to think, and do not expect fast answer. In the process of thinking, scaffolding was provided for student participants, and student participants were guided to think about problems from different perspectives, thinking about problems from shallow to deep levels, and gradually improved their conclusions through the discussions with different people.

Starting from written materials, the habit of critical thinking had gradually been applied to the process of daily communication and learning in other disciplines. For beginners of critical thinking, it takes time to develop the habit and ability of critical thinking, so starting with reading materials is a good choice. Take one of the sub-skills of critical thinking for example, if you want to train student participants' ability to discover flaws in the argument, start with reading articles instead of oral English dialogues or some listening materials, which can provide student participants with relatively sufficient time for thinking, and at the same time provide student participants with possibility of reading the material lover and over again for evidence and supporting reasons. Compared with the material obtained through listening and speaking, the written material is relatively accurate and fixed. If starting with listening materials, the materials that need to be analyzed flash in the student participants' minds. For student participants, the analysis is too difficult, and student participants may give up. In the interview, some student participants said that through the training of critical thinking in English classes, they also used critical thinking skills in daily communication with classmates and family members, when reading articles on the Internet, and when studying other subjects. Although sometimes they did not use it consciously, they believed that their critical thinking skills would definitely be improved through continuous use in daily life and study. In addition, Schellens(2009) and his group had found that discussion groups can promote

student participants' critical thinking in general and the critical thinking processes during problem identification and problem exploration, in particular. More specifically, it appears that requiring student participants to reflect on the type of thinking in their contributions stimulates more in depth and focused contributions and, more frequent input of new problem-related information and new ideas for discussion.

The design of the tasks combined the language teaching goals and critical thinking teaching goals of college English intensive reading. Although this study focused on the cultivation of student participants' critical thinking ability, since the college English intensive reading course was used as the carrier, the first thing that must be guaranteed was the completion of the language teaching goals set by the university and college. Through many discussions and cooperation between the researcher and two teachers, tasks suitable for different reading materials and training of different critical thinking skills were designed. For example, in a reading class, student participants were assigned five consecutive tasks. Task 1: Find out the author's attitude towards student participants' use of electronic devices. Task 2: List the reasons why the author holds this attitude. Task 3: Do you agree with the author's point of view and why? Task 4: Debating different viewpoints among groups. Task 5: Synthesize the arguments of both parties in the debate, write an argumentative essay, and put forward some suggestions for the rational use of electronic devices by college student participants. In the process of completing tasks, student participants not only deepened their understanding of reading materials, but also developed their critical thinking abilities

Student participants gradually gain confidence in critical thinking during group discussions. The group discussion had increased participation and given a voice to many student participants normally reluctant to speak in class. Student participants who thought their questions might be too naïve were afraid of asking questions and student participants who were too shy to speak to the teacher or in public opened up their hearts and showed their true self during group discussions. In group discussions, there was no pressure from teacher and the whole class, so student participants can ask questions and express themselves boldly. Through discussion, they screened out more valuable questions and summarized more reasonable answers. The products of different thinking processes of the team members collided, and more

splendid flowers of thought burst out in the mutual friction. For those student participants who used to be on their smart phones or sleep, were also attracted by the heated discussion of unexpected or wonderful ideas of their group members. Considering the new assessment rules of peer assessment, they gradually joined the discussion. With the confidence of expressing, their habit of critical thinking was being formed.

The spiral steps of plan, act, observe, reflect, and plan in action research enable teachers and the researcher to gradually improve the teaching design that promotes critical thinking. In the teaching process, student participants used KWL chart to summarize, digest and reflect on what they had learned in each class, and teachers found the shortcomings of teaching design together with researcher through their teaching notes on teaching and improved them. Both provide a ladder to the teaching goal of developing student participants' critical thinking. For example, when carrying the classroom observation, the research noticed that during the presentation of a debate task, the teacher found the language expressions of both sides of the debate were very direct and rude, and the two sides developed from a debate to an attack war. The content of the debate was very convincing, but because of improper use of language, the opponent felt offended and could not accept his point of view, which became the biggest obstacle to the debate. After both student participants and teachers discovered this problem, the teacher distributed the relevant videos of language expression skills to each class, and asked everyone to watch it after class. In the second day of class, the task of showing language skills was added. The problem was solved. Since then, student participants had learned that the results of critical thinking need to be displayed and discussed with certain language skills. Learning to speak politely and tactfully will make it easier for the other party to get what we want to express.

5.1.5 Findings for RQ5.Can those teaching approach help participants have further understanding of the reading materials?

For the last research question, participants did further understand the text by Teaching Trilogy.

The data of Table4-4 showed that in the post-test 30.5% more participants admitted that English intensive reading class was very helpful for their further understanding of the text, and no one thought the English intensive class was useless.

In table 4-12, the data indicated that participants had a better understanding of the text than the previous semester, because more participants could answer the questions in the exercise of each text. In addition, Table4-7, Table4-8, and Table4-14 demonstrated the higher frequency of having different ideas of participants in the post-test, which can also reflect participants' further understanding of the text. Final exam data also illustrated the effectiveness of Teaching Trilogy in helping student participants understanding of the texts. As far as the extracurricular readings in class were concerned, the correct rate of student participants had climbed 19.2%. If this can only mean that Teaching Trilogy had improved student participants' understanding of the texts they had learned, and the average score of the whole test scores had increased, it mean that Teaching Trilogy can not only deepen the student participants' understanding of the texts they were studying, the participants' reading comprehension abilities were improved, because extra-curricular reading questions were added to the post-test exam paper.

5.2 Overall findings to the research

The factors influencing student participants' psychological stress level and the balance between relax and tense

Table 4-5 investigated the psychological stress level of participants in college English intensive reading class. According to the interviews with participants, discussions with teachers and classroom observation, it is believed that there are many factors that affect student participants' classroom tension. In addition to teaching methods and activity design, the teachers' character and the student participants' character are also key factors. Even if student participants were provided with a relatively relaxed classroom atmosphere, some student participants still felt pressured. The personality of the student determines his psychological state in the classroom. Student participants, who are strict with themselves, have a strong desire for performance, actively participate in classroom, pursue efficient learning, and have anxiety tendencies are difficult to relax in the classroom. In addition, the teacher's personality will also determine the psychological state of student participants in classroom learning. The same teaching design may lead to completely different classroom presentations in the classrooms of two teachers. Teachers who are extroverted, approachable, forgiving, enthusiastic, and passionate can help reduce student stress. On the other hand, introverted, strict, unsmiling teachers can make

student participants feel stressed. Student participants said that the younger the teachers, the less stressed they were, and the higher the teacher's title, the more stressed they were. Student participants believe that young teachers have a small generation gap with them and are easy to approach and communicate with. Elder teachers are usually too old-fashioned and dogmatic, and teachers with higher professional titles have more professional knowledge, and student participants suspect that their problems are too naive for professionals, so they have more pressure to ask questions or express themselves in class, and the psychological pressure is greater. Therefore, in teaching, we should not only consider the design itself, but also guide teachers, hoping that they can use their own personality charm to enhance the effect of classroom teaching.

Secondly, the grasp of the degree of student tension should not pursue extremes. Too relaxed or too nervous is detrimental to classroom teaching. If student participants are too relaxed, they will be tired and lack enthusiasm, and lacking of a sense of time tension may reduce learning efficiency. Too much tension will affect student participants' thinking and language expression and hinder student participants from exerting their due learning ability. Therefore, when designing classroom activities and manipulating the classroom, teachers should strike the balance that is most suitable for the class between relaxation and tension, so as to maximize the effect of classroom teaching.

Reasons why student participants in English class do not ask questions

Regarding the data in Table 4-1 and Table 4-2, it is not difficult to find that in college classes, the number of student participants asking questions is very small and the frequency is not high, and this phenomenon is even more serious in college English intensive reading classes. The reason is that the not asking question habit was formed by student participants under the influence of Confucianism (Liji, Han dynasty) for a long time, which emphasized too much on respecting and trusting the teacher. In the English classroom, in addition to the above habits, student participants' desire to ask questions is also affected by their English language ability. Student participants cannot literally read the reading materials, so it is difficult to trigger student participants to think further. Student participants also know that since it is a naive question to ask the teacher the meaning of individual words in the text, they should overcome laziness and look up the dictionary before class to solve it, so they

will not ask such questions. For student participants who can read the literal meaning and find other questions, they may be limited by language ability when asking questions, and they cannot ask in English, so they give up asking. In addition, the student's personality, classroom atmosphere and teacher's performance will also affect the enthusiasm of student participants to ask questions. Therefore, in order to inspire student participants to think, we must first help student participants overcome the obstacles of asking questions, and gradually change their habits through encouragement and guidance. On this basis, the pre-class preview is strictly required to clear the obstacles of new words for the deep learning of the text. When student participants under this Teaching Trilogy mode encounter problems and cannot express themselves, the language requirements can be appropriately reduced, and student participants are encouraged to use Chinese to ask questions when they cannot express in English. Habit changing first and language developing second, following this principle, student participants will gradually be guided to think and ask questions in a higher frequency, and their knowledge of critical thinking will be clearer after practicing it for a loner time.

Chapter 6 Conclusion

6.1 Policy implementation

Under the educational background of advocating the cultivation of innovative talents, the Teaching Trilogy mode can improve the classroom atmosphere and promote the interaction between students and students. In the mode of group cooperative learning, the use of TBL methods can gradually cultivate students' critical thinking ability, and apply this ability in the learning process of various subjects. While meeting the needs of cultivating innovative talents, Teaching Trilogy mode promoted the transformation from passive learning to autonomous learning, and with the enhancement of critical thinking ability, students can understand the reading texts further. From the knowing the Chinese meaning of the text, remembering the answers of the exercises after class, to thinking about the meaning behind the texts, asking questions and expressing opinions, the students' learning goals have been improved to some extent. Judging from the students' classroom performance and test results, the Teaching Trilogy mode has improved the teaching efficiency and teaching effect of college English reading courses, and the students' thinking ability, language ability and reading comprehension ability have been improved to a certain extent.

Based on the above research findings, it is recommended that the training objectives of critical thinking can be incorporated into the teaching syllabus, and bespoke course of critical thinking can be set up to introduce and train critical thinking systematically. When setting the teaching credits, high credits can be appropriately given to emphasize the importance of learning critical thinking. This recommendation also builds on the work of Wang (2013) and Li (2017) and makes a distinctive contribution to this field of study. Wang studied the current situation, problems, and guiding ideology and significance, better design and future development of extra-curricular credit system. Her study comes up with content of extra-curricular credit system, idea and program of building the security system for prioritize the personalized development and innovation ability of students in designing personnel training programs. She focused on the credit design of extra-curricular; however, this study intended to put critical thinking courses into the curricular since it is so essential for innovation ability. Li believes that school's recognition of students' credits should be oriented to the cultivation of students. The

setting of credits has a guiding role, so if you want to cultivate students' innovative ability, it is necessary to optimize credit setting, so as to attract students' attention and guide students to increase their investment in the study of certain subject. The recommendation of setting high credit points of critical thinking course is expected to play the function of guiding emphasizing on critical thinking course.

In addition to the establishment of critical thinking courses, when formulating teaching plans for various subjects, the teaching objectives of critical thinking can be appropriately included, the cultivation of critical thinking can be integrated into the teaching of various subjects. The ability of thinking can be applied to the learning of various disciplines, so as to strengthen students' critical thinking habit and improve learning efficiency and cognitive depth. In the evaluation system of various subjects, evaluations that can reflect students' critical thinking can be established to promote the development of students' critical thinking habits. Since Teaching Trilogy has not been applied to the Chinese context, Teachers of each subject can try to refer to the Teaching Trilogy mode according to the characteristics of the subject to form a practical teaching mode to improve the classroom atmosphere, enhance classroom interaction, and promote group cooperative learning.

6.2 Conclusion

The inactive state of student participants in the classroom, the passive learning attitude of student participants, the study habits of student participants who are not good at thinking and the relatively low score of final exam and CCTDI test, all showed the urgency and importance of cultivating student participants' critical thinking habits and improving student participants' critical thinking ability. Brian (2015) believed that practice is the basic way to get cognition and it can also test the cognition(Brain, 2015). 12 years of learning experience and students’ education had an impact on their pedagogical beliefs and decisions about preferred learning habit. As mentioned in the research background, students had the belief that the teachers are experts in their field and what they taught must be the truth. To purchase the largest amount of knowledge in each teaching period, students were expected to be a quiet listener. According to King and Kitchener, they belong to pre-reflective thinking level, who believed that knowledge is simple, definite, and absolute, that all questions have a correct answer, and the correct answer is often known only by authorities. And they saw their teachers as authorities. After a semester of new teaching mode, some student

participants developed to quasi-reflective thinking level who began to acknowledge the uncertainty of the knowledge acquisition process and think that everyone has their own point of view. Knowledge is relative and situational, and its source is an individual's internal construct rather than an external authority. Evidence is seen as a key part of the knowledge acquisition process, beginning to be able to link evidence to cognitive reasoning. At this level, student participant tried to challenge the authority of the teacher, doubt about what the teacher said, and reasoning with others for digging out the truth. And in the near future, student participants were expected to step into reflective thinking level who believed that knowledge is actively constructed and must be understood in context, and judgments need to be re-evaluated. They can use evidence and reasoning flexibly to support their judgments, and are open to reassessing and judging their own conclusions. What the study had done is to provide diverse learning experience to form critical thinking habit and more scientific pedagogical beliefs.

Through one semester of critical thinking training in college English intensive reading class, student participants had made progress in the following aspects.

First, the state of study has been changed. There were fewer student participants sleeping and being on their smart phones in class. More and more student participants were concentrated, energetic, and quick to respond in class.

Second, the student participants' learning attitude had improved. The number of student participants moving from passive to active learning was increasing, which reflected in the enthusiasm of group discussions and the completion of assignments.

Third, student participants' thinking habits had changed, which also directly led to the changes in student participants' study habits. Student participants gradually learnt to identify problems, share problems and solve problems, and gain confidence and a sense of achievement in the process, and entered a virtuous cycle of learning.

Fourth, with the improvement of student participants' critical thinking ability, student participants' reading ability had also been improved accordingly, which reflected in the improvement of student participants' exam scores. Even though the difficulty of the test papers in the post-test was far greater than that in the pre-test, the scores of each type of questions and the total scores reflected that student participants' critical thinking had been improved to a certain extent, which was one of the most intuitive result brought by Teaching Trilogy.

Fifth, the inherent stereotype of some student participants was broken, and they

broke through the thinking bound by authority, and observed the world from multiple angles more scientifically. For example, student participants learnt to question teachers, question authors, and question textbooks.

Sixth, the awareness of teamwork was gradually formed, and certain communication skills had been mastered, and the cooperation ability had been improved. In the process of training student participants' critical thinking, Teaching Trilogy combined the two elements of TBL and group discussion, so that student participants stepped out from self to group, from group to the whole class, promoted each other in cooperation and grew together. The teaching objectives and teaching content of each class were connected by countless tasks. Through the reasonable design of task difficulty and order, the training of thinking and language training were twisted, and the teaching effect was optimized. In the classroom, student participants started from the most basic skills of critical thinking, gradually mastered the concept of critical thinking, tried to use the skills of critical thinking, and then used a combination of various skills in reading. Initially student participants used critical thinking skills passively and consciously, they tried to spot problems, they tried to raise their hands for questions, they tried to question. They began to develop critical thinking skills while gradually formed critical thinking habits. They implemented critical thinking skills, such as discovering fallacies, finding opinions, and finding evidence through dialogues with themselves, with the author, with articles, with team members, with classmates, and with teachers. By the affirmation of classmates and teachers, by the test scores, student participants had explored methods and found self-confidence, which had also promoted the development of student participants' critical thinking habits and the further improvement of their critical thinking ability. With the gradual development of student participants' critical thinking habits, student participants' enthusiasm in the classroom had been significantly improved, and the classroom atmosphere was very active according to the classroom observation. Occasionally, student participants asked questions that were deep enough and worth to be explored, not just about the meaning of certain long sentences. After group discussions, student participants can express more original opinions and answer questions from different angles. More and more student participants were able to complete exercises independently without resorting to reference books. Completion of homework and test scores also reflected the improvement of student participants' comprehension ability. The improvement of critical thinking ability not only deepened

student participants' understanding of the articles they read, but also some student participants said that they inadvertently used critical thinking skills in the study of other subjects, which was very helpful to their learning. The transfer of critical thinking skills between disciplines made researcher more determined to conduct further research.

6.3 Limitations

6.3.1Limitations of the research

Due to the limitation of classroom teaching time, the theoretical knowledge of critical thinking and all the skills of critical thinking cannot be taught comprehensively.

Because a semester is too short, teachers cannot systematically and comprehensively introduce the concepts and methods of critical thinking to student participants, so that student participants cannot have a deeper understanding of critical thinking and cannot really mater the skill of critical thinking. In addition, the reading materials studied in one semester are relatively limited in style, and all the skills of critical thinking cannot be trained, resulting in student participants only mastering some of the skills, and the effect is limited. Some Chinese educators suggested optimizing classroom teaching for improving teaching efficiency. This is a ideal solution for time limitation, however, some other options should be considered, too. In the future teaching, we can suggest the university to open an elective course of critical thinking, and spend more time to introduce the concept and method of critical thinking in detail and systematically, so as to stimulate student participants' learning motivation. After class time can also be used to enrich the style of reading materials through extra-curricular reading, and provide student participants with more diverse skill training carriers, so that student participants gradually have the ability to comprehensively use critical thinking skills.

Teachers did not show enough welcome to student participants' voices.

Little materials can be found on this issue. Although under the Teaching Trilogy, teachers encouraged student participants to ask questions and express their opinions in English intensive reading class, there were still student participants who believed teachers were just formalists. They thought that encouraging student participants to speak was required by the university, not from the heart of the teacher. Although the

teacher encouraged the student participants to speak up, the student participants' questions and opinions were not welcome in the heart. Teachers would feel that answering simple questions from student participants was a waste of everyone's time, and teachers might not be able to answer the difficult questions raised by student participants. Based on the above guesses, student participants were still not sure whether their questions were really popular or not, which hinders student participants' expression and affects teacher-student communication. In the future teaching, teachers should take practical actions to affirm the behavior of student participants asking questions, give patient answers after student participants ask questions, or guide student participants to discuss, and give verbal praise or score rewards. In addition, teachers should have the courage to face questions that cannot be answered immediately. They can discuss with student participants, or promise student participants to answer them in the next class. After class, they can find answers by consulting relevant materials. The emergent research question can be how to make teachers truly welcome and encourage students' questions and how to properly deal with those questions.

Did not find the balance between questioning the teacher and trusting the teacher.

Since mentioned in Chapter 2 and Chapter 5, the Chinese students had the habit of being obedient unconditionally to the teachers; it is a challenge to form the habit of questioning the teachers. Not any academic paper had been found to solve this issue. To develop student participants' critical thinking ability, it is inevitable for student participants to learn to question rationally. In the research, some student participants did not grasp the principle of questioning, questioned for the sake of questioning, and gradually developed the habit of questioning everything. Ennis pointed out that critical thinking was rational thinking; however this mistake of questioning everything was made by many philosophers in the history. How to question at the right time for the right think was the key to the following critical thinking training. As can be seen from Table4-6, in the pre-test, lacking of thinking and constrained by traditional thinking, almost all student participants believed that everything the teacher explained in class was absolutely correct. In the post-test, many participants began to question what the teacher said, believing that the teacher's understanding was not necessarily the true and only expression of the author's writing purpose. For the goals of this

study, this shift is expected to be seen, which is that more and more participants learnt to question and stop advocating the absolute authority of teachers. At the same time, it also brought out some disadvantages. If student participants always question the teacher, then he will gradually lose his trust in the teacher, and it is possible to further question the necessity and importance of classroom teaching, and this distrust has also transformed into disrespect for the teacher. This is pedagogical implication urged educator to work out a teaching strategy for keeping a balance between questioning teachers and trusting teachers, in other words, respecting and trusting teachers while retaining the vigilance of questioning, exercising thinking under the guidance of teachers, and excavating the deep theme of the article is the issue for the next step of research. So the further research can be focused on the approach to find the balance between questioning the teacher and trusting the teacher.

Social desirability bias in the interview data can't be totally avoided.

Many qualitative research studies acknowledge the possibility of social desirability bias (a tendency to present reality to align with what is perceived to be socially acceptable) as a limitation that creates complexities in interpreting findings (Bergen, 2020). As mentioned in the methodology chapter, the interviewees may have demand characteristics, which means they choose to hide their negative comments to some questions because they know what the interviewer prefer to hear and what can meet the need of the research. To mitigate such social desirability bias, two tactics were adopted in this interview.

Firstly, make interviewees feel safe to tell the truth. At the beginning of the interview, the interviewees were informed that this interview was audio recorded, not video recorded, and they only had a random number, not a name, as the data. In addition, they were promised that what they say doesn't affect their grade of this course nor their teacher.

Secondly, make interviewees feel comfortable to tell the truth. The interview questions were designed carefully to mitigate the social desirability bias. Questions which may bring offending answers were avoided as well as questions which may contain emotional comments to the teacher. "Do you like your college English intensive reading class this semester?" was replaced by "What is your deepest feeling about the college English intensive reading class this semester?". The later one can make interviewees express their true feeling about the class without embarrassment.

"Are you satisfied with your college English teacher, why?" was replaced by "If you were the teacher, what other changes would you make in the English intensive reading class?". To answer the later question, the interviewees do not have to express any negative answer, but their attitudes can be inferred easily and the reasons for unsatisfactory can be shown clearly.

Although those tactics were used, the social desirability bias can't be avoided totally, and in further study, more strategies should be considered and adopted.

6.3.2Limitations of using Teaching Trilogy Mode

Less emphasis on reading skills in class time

As mentioned in 2.2.3, Tian (2011) and Zhou (2015) found that even gave students enough reading time outside the classroom, they did not make satisfactory process in reading as expected. It indicated that reading was a tool for thinking, and critical thinking skills were more essential for students than reading skills. Since the Teaching Trilogy Mode was focused on training students' critical thinking ability, and most of the classroom time was spent on group tasks, there was less time for training reading skills. To make the Teaching Trilogy more effective in improving students' critical thinking ability without sacrificing reading skills training, the suggestion was made for more focused reading outside the teaching classroom. For each of reading materials, there is one particular reading skill mentioned in the textbook, and relevant exercises were given following the reading materials. My study demonstrates that teachers should remind students to go through those in the textbook before class, so that students can bear certain reading skills in mind when previewing the reading material. Much classroom teaching time can be saved in this way, more time might be spent on practising reading skills as well as critical thinking skills. It emerges from the data that more questioning and less reading in class can make both the intensive reading course and the Teaching Trilogy mode more effective. For example, in unit 4, the focused reading skill was how to find topic sentence. When tasks were designed, the training of this reading skill was contained, but there was no time for further practice of reading with this skill. For the future study, we will try to assign the reading tasks as their homework, and address the particular reading skill of that reading material when assign the preview work, and offer some further practice of reading skills in the form of tasks.

Dependence on group tasks

Reflecting on the main findings, the results suggest that we need to avoid too much dependence on group reading tasks.

Under the Teaching Trilogy mode, students' classroom activities were mostly carried out in the form of group discussion. Although there was a process of independent thinking before the group discussion, the group discussion still made students dependent on others. They always sought a variety of opinions.

To solve this problem, it is necessary to guide students to think from different angles when they are out of the group environment, and to assume the views of others in order to weigh and improve their own views.

The Teaching Trilogy mode is a new try for training students' critical thinking ability and it will be developed with the help of more feedback from teachers and students.

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Appendix A Teaching Plan Sample

Unit 1 The Pursuit of Dreams

First period

Part One Teaching content

1. Opener
2. Reading & Interacting: structure & storyline

Part Two Teaching aims and demands

1. To enable students to have a though understanding of the text contextually;
2. To enable students to build up an active vocabulary to talk about the pursuit of dreams and know how to use the key words and expressions in context properly;

Part Three Teaching focus and difficulties

1. Checking students' self-study of the Micro-lesson
2. The structure and the storyline
3. critical thinking training---meta critical thinking competence

Part Four Teaching method

1. Micro-lesson
2. Flipped classroom
3. Teaching trilogy
4. Task-based approach

Part Five Teaching procedures

1.Group presentation to introduce the hero in the text with PPT.

Since students have asked to watch the Micro-lesson and finish the Opener before class, they should give their group presentation according to the background information in the Micro-lesson and the way for introducing person in Opener.

2.Group discussion to finish Text Organization.

Students are asked to work with groups to find events and activities to match the time expressions in the table in Text Organization.

Time	Paragraphs	Major Events/Activities
When he was little	2	● There was always music on in his house. ● He loved listening to Metallica, Led Zeppelin, Bob Marley, Michael Jackson. ● His dad was a DJ, who played disco, folk, dance, rock, and music from other countries.
On his 18th birthday	2	His dad asked him to deejay at the restaurant he owned.
After deejaying at his father's restaurant for a few weeks	2	He was hooked on being a DJ and wanted to learn more.
When he was 25	3	He emailed a well-known DJ and was able to get his tutoring twice a week for two tears.
When he started deejaying at clubs	4	He showed up, introduced himself, and played music without telling people there he was deaf.

Task 1: Watch micro-lesson and take notes on culture and background information.

Task 2: Work with your partner to deal with Opener, and tape the answers to the three questions.

Task 3: Draw a Group KWL about this text.

Task 4: Group presentation to introduce the hero, using the way you have learned in Task 1& Task 2 to introduce a person.

Task 5: Group discussion: What questions would you design for understanding this text. Which part to you is difficult to understand most? And what questions would be asked to help the understanding?

Now when he performs	3 5 6 8	● He is skillful, with his body moving automatically. ● He can hear some of the lower frequencies and feel the beat in his feet. ● He uses software that turns the music into lines of color on a computer screen. ● He plays all sorts of get-togethers, from college parties to corporate events.

3.Structure analysis

Guide students to approach the text by studying the storyline of the writer's personal story-time order and some key elements of a story: setting, conflict, development, and ending.

Setting (Para.1): the writer was born in England with perfect hearing. When he was five, his family moved to the United States. Because of ear infections, he went deaf in the right ear and was left with 20% of hearing in the left.

Conflict (Paras.2-3): the young man who was almost deaf, however, got interested in deejaying which usually requires acute hearing.

Development (Para.4): t the age of 25, he began to receive tutoring from a famous New York DJ. He got jobs, deejaying at clubs and, for his excellent performance, won the name "that Deaf DJ".

Ending (Paras.5-8): the writer explains how he, a man with fearing loss, succeeded in deejaying. And the writer offers encouragement for the young to chase their dreams.

4.Key words and expressions searching

Students are asked to work in groups to search for key words and expressions in each paragraph. Then, exchange the results with other groups and pick out the most suitable answers and circle them on their books.

Suggested answers:

Para.1: born, perfect/infection, drop/predict, deaf

Para.2: music/ 18th deejay at restaurant/hooked ,learn more

Para.3: 25,email /wrote back, tutored / practiced, take over

Para.4: deejay at clubs/show up/give me jobs

Para.5: feel the energy/goes crazy/comes to life

Para.6: use software /turn music into lines of color/love /creativity

Para.7: cover your ears/use other senses/in a different way/not all about hearing

Para.8:play all sorts of get-togethers/ talk to/chase dreams

Part Five Critical Thinking

1.Do you think it is a good way to write a story in time order? If you are going to write a story, will you write it in time order? What kind of storyline will you create?

2.What makes successful dream chasers according to the story of Qian Xuesen, Steve Jobs and Robbie Wilde

Part Six Homework

1. To retell the story in time order according to the key words and expressions they have circled;

2. To finish the exercises I. Understand the Text 2.1

Make a question list for other groups.

Task 6:
Group work: compare the chart in your book and the question list you made, and find out the similarities and differences. Then finish the chart and question list from an other group.

Task 7:
Group discussion for key words and expressions and share your answers with other groups. Try to combine the answers from all groups and pick out the most proper one.

Task 8:
Write down your answers and put them in the written file.

Unit 1 The Pursuit of Dreams

Second period

Part One Teaching content

1. Retell the text
2. Read & comprehend the text in details
3. Use key words to draw a mind map

Part Two Teaching aims and demands

1. To enable students to have a detailed understanding of the text contextually;
2. To enable students to use the key words and expressions in context to retell the whole text fluently
3. To ask students to draw a vivid mind map according to their own understanding of the text

Part Three Teaching focus and difficulties

1. Understand the text logically
2. How to draw a proper mind map

Part Four Teaching method

1. Discussion and presentation
2. Flipped classroom
3. Group work

Part Five Teaching procedures

1.Group presentation to retell the text.

Since students have learned the text with the help o f the table of page 17, they should have a clearer picture of the main idea. Ask students to retell the whole text using the following key words:

Para.1: born, perfect/infection, drop/predict, deaf

Para.2: music/ 18th deejay at restaurant/hooked ,learn more

Para.3: 25,email /wrote back, tutored / practiced, take over

Para.4: deejay at clubs/show up/give me jobs

Para.5: feel the energy/goes crazy/comes to life

Para.6: use software /turn music into lines of color/love /creativity

Para.7: cover your ears/use other senses/in a different way/not all about hearing

Para.8:play all sorts of get-togethers/ talk to/chase dreams

Task9: work in groups to retell the text using the key words.

2 Digging into details

Part I (para.1) setting

1.Digging into details

Answer the following questions to better understand the text. Ask students to answer orally and meanwhile ask them to write down some key words. (para.1)

Was he deaf when he was born?

How did Robbie become deaf?

Is he completely deaf now?

2.Understanding difficult sentences

Over time, my remembering hearing dropped to 20 percent, where it is today. (para.1)

Suggested answer: Gradually I lost more of my hearing until I was 80% deaf, as I currently remain.

3.Teaching focus

Pay attention to the word use: perfect-infection-treatment-deaf. That's how he became deaf.

Try to feel the psychological change of the writer: remain-drop-predict-think. The verb use expresses his feeling about being deaf.

Part II (para.2-3)

Task 10: Group work Each group can show the questions they designed for understanding the text, and others try to answer those questions.

1.Digging into details
Answer the following questions to better understand the text. Ask students to answer orally and meanwhile ask them to write down some key words.
(para.2)
What did the writer's father do when he was little?
What did his father ask him to do at his 18th birthday?
(para.3)
What did the writer do when he was 25?
Was it hard for the writer? Why?
2.Understanding difficult sentences
After doing that for a few weeks, I was hooked. (para.2)
Suggested answer: I became really interested in doing that after a few weeks.
3.Teaching focus
Think about the great influence that his father had on him.
The love for music in para.2: always music-love listening-hooked-wanted to learn more
Appreciate the beauty of coherence above.
What happened at the age of 25? List some words to describe in para.3: emailed-wrote back-tutored-helped-developed-practiced-performing-take over
What good qualities to chase dreams did he have according to this part?
Ask students whether they do can do as hard as the writer. Emotionally try to educate students to work harder.

Part III (para.4)
1.Digging into details
Answer the following questions to better understand the text. Ask students to answer orally and meanwhile ask them to write down some key words.
When he started deejaying at clubs, would he tell the managers he was deaf? Why?
How did people in the clubs feel when Bobbie told told them he was hard of hearing?
What is the real reassurance for him?
What did people call him eventually?
2.Understanding difficult sentences
It was reassurance that they were giving me jobs because I was good, not out of sympathy. (para.4)
Suggested answer: Their attitude encouraged me as it showed they gave me jobs because they valued my skills, not because they felt sorry for me.
3.Teaching focus
Analyze the different feelings of people.
Why are people surprised to hear his music? Because they can't believe it is the deaf that has done so well. In a way, the deaf is doing quite well. At the same time, I feel the reassurance not from their sympathy but from my good jobs.
Appreciate the importance of encouragement.
Ask students to share their own stories about encouragement.
What role does encouragement play in pursuing their dream?

Part IV (para.5-8)
1.Digging into details
Answer the following questions to better understand the text. Ask students to answer orally and meanwhile ask them to write down some key words.
(para.5)
What does he do to help himself hear the music when he deejays for a show?

(para.6) What does the word "visually" most probably mean, judging from the context? What does he love about deejaying? (para.7) Why does the writer say "Music is not all about hearing.?" What do you think of music? (para.8) What is the writer's advice to the parents? What can we learn from the writer? 2.Understanding difficult sentences Music is not all about hearing. (para.7) Suggested answer: Music benefits from the use of senses other than hearing, such as sight and tough I'm big on talking to the parents. (para.8) Suggested answer: I love and really enjoy talking to the parents. 3.Teaching focus Ask students to explain how the deaf DJ succeeded in deejaying in different aspects. -Set up one speaker -use the software -go dancing covering your ears -play all sorts of get-togethers. How to understand the sentence, "Music is not all about hearing."? What do you think of music using other senses? Give us examples of your hearing music in a different way. Analyze the importance of *motivation and believing in themselves* in the person of the deaf DJ. Discussion: What qualities can help you realize your dreams? *Love-practice-motivation-believing in themselves-chase their dreams* **3 Use key words to draw a mind map** Ask students to work in group to discuss the main context and try to form their own mind map in each group. In this way, the students can have a more logical understanding of the text. Key words: Para.1: born, perfect/infection, drop/predict, deaf Para.2: music/ 18th deejay at restaurant/hooked ,learn more Para.3: 25,email /wrote back, tutored / practiced, take over Para.4: deejay at clubs/show up/give me jobs Para.5: feel the energy/goes crazy/comes to life Para.6: use software /turn music into lines of color/love /creativity Para.7: cover your ears/use other senses/in a different way/not all about hearing Para.8:play all sorts of get-togethers/ talk to/chase dreams Try to help students to use the suggested underlined key words to draw a mind map. Of course, different group can choose different key words to make up a different mind map. **Part VI Critical thinking** 1. How did Deaf DJ make impossible possible? What can you learn from him? 2. What challenges stood in the way of dream chasers? Can you list many encouraging stories of other celebrities? How to be a successful dream chaser? **Part VII Homework** 1. Finish the 1.1,1.2,1.3exercises on page20-21 2. Make your mind map perfect in each group and try to describe the text	Task 11: work in group to discuss the main idea and draw a mind map

Unit 1 The Pursuit of Dreams

Third period

Part One Teaching content

1.Homework checking: II Focusing on Language in Context.
2.Writing strategies of the text Deaf DJ.
3. Reading 1 & Reading 2
4.Integrated Skills Practicing

Part Two Teaching aims and demands

1.To enable students to have a thorough understanding of Reading1 and Reading2 with skimming skills.
2.To enable students to explain how to make dreams come true and know how to use the key words and expressions in context properly;

Part Three Teaching focus and difficulties

1. The skills of skimming and scanning.
2. The writing strategies.
3. Speaking.

Part Four Teaching method

1.Group discussion
2.Role play

Part Five Teaching procedures

1.Checking the exercises of II Focusing on Language in Context.

Students are divided into six groups. Each group should be responsible for a part of the exercises. They should give out their answers and explain the reasons. Every member has to be involved in this group activity. The teacher should give comments and corrections when necessary.

Group1: Key Words & Expressions 1.1
Group2: Key Words & Expressions 1.2
Group3: Key Words & Expressions 1.3
Group4: Key Words & Expressions 2
Group5: Key Words & Expressions 3
Group6: Key Words & Expressions 4

2. Writing Strategies

(1). Writing in time order.

I was born ---→ when I was five ---→when I was little ---→18th birthday ---→
when I was 25 ---→ when I started deejaying at clubs ---→ now

(2). Forming a storyline

Setting --→ conflict ---→ development ---→ ending

(3). Use different sentence pattern to emphasize

The emphatic sentence: It was restaurance that they were giving me jobs because I was good, not out of sympathy. (Para.4)

The parallel sentence: the next time you go dancing cover your ears, and you'll feel a little bit of how I do it. You'll start using your other senses. You'll start seeing that you're able to hear the music in a different way. (Para.7)

(4).Use a rhetorical question to end the text.

My advice to you is to let your kids chase their dreams. I'm a deaf DJ, so why not?

Task 12: Group work to deal with the exercises.

Task 13: Group discussion
Why did the author arrange the story in this way? Is it reasonable and can bring a expected outcome? In what kind of situation will you apply this kind of structure?

Task 14: reflect on your KWL chart.

Task 15: Scanning for understanding.

3.Reading1 Ask students to **scan** the text and finish exercises *Comprehension Check for Reading & Translation* on Page 26 and Page 27. **Scanning** is a very important reading technique. In short, scanning refers to reading through material to find specific information. When you scan, you run your eyes over text or information to pull out specific words, phrases, or data. When students practice scanning, they must get into the habit of letting their eyes fall over large sections of text. It will prove important to anticipate how the information has been organized, such as alphabetically, chronologically, or numerically.	Task 16: Skimming for understanding.
4.Reading2 Ask students to **skim** the text and finish the exercise *Comprehension Check for Reading2* on Page 29. **Skimming** refers to looking through material quickly to gather a general sense of the ideas, information, or topic itself. When you skim, you read through an article three to four times faster than when you read each word. When students receive a level-appropriate article selected by the teacher, they should first read the title. Although not every article title will clearly explain the contents, many will allow students to form an image of what will follow. For example, a title formatted as a question will provide answers in the article. Next, students should read the introductory paragraph. Although there will be a hook to catch the attention of the reader, the first paragraph will often contain the thesis or main idea of the article. Some writers may opt for two or three introductory paragraphs before presenting the main idea, so students should also be aware of this style too. If there are subheadings, students should read these and make connections with the article's title and introduction. Moving on, students should look at the first and second sentence of each paragraph, as these usually provide the main idea for the paragraph. Subsequent sentences will contain supporting information, such as details, examples, and anecdotes. As a result, the following sentences can be read if students deem the additional detail necessary for comprehension or discussion. And lastly, students should look at the final paragraph, as this should contain a recap or closing comment for the article.	Task 17: Viewing and filling the blanks, then reading in pairs. Task 18: Role-play to do a TV interview.
5.Viewing & Listening View a short video about Robbie with students. Ask students to focus only on what he has to say in response to the three questions listed. Students should fill in the blanks in the dialogue boxes according to the video. Then ask three pairs of students to read out the dialogues with answers. In the end, teacher should give comments and corrections.	
6.Speaking Role-play: TV interview Roles: TV presenter / Robbie Wilde / Gac Filipaj / Yu Minhong Students are divided into groups of four in each. ↓ Each student pick a role ↓ Brainstorm what specific questions the presenter is going to ask and make an outline. Tips: The interview questions can be about the interviewees'	

achievements

What challenges stood in the way of their success?

What did they think ?

How did they feel when encountering difficulties in chasing their dreams?

How do they feel now?

What are their plans for the future?

What advices do they have for young people?

↓

The presenter collects the questions and writes them down on a sheet of paper.

The other three people to be interviewed scan the articles in this unit and write down key information related to the questions to be asked.

↓

Role-play the interview.

Task 19:
Read the poem and record it with background music.

Task 20:
Writing with at least one of the skills you have learnt in this unit.

Part Five Critical Thinking

1.What are the similarities in Robbie Wilde, Gac Filipaj, and Yu Minhong?

2.Would you be a successful person in the future, what necessary elements you already have, and what you are lack of?

Part Six Homework

1. Read the poem *Use Your Imagination To Find Success.* Record it with background music and put it in the audio file.

2. Writing: First, work individually on a paragraph about "My Dream Job". Then, present your writing in a group of four to share dream jobs with each other. Compare the four people's descriptions of obstacles and ways of achieving dreams. At the same time, check and fix grammar mistakes for each other. Pay special attention to the use of tenses.

Requirements:

- You must write a paragraph of no less than 120 words.
- You must state clearly what your dream job is at the beginning of your paragraph.
- You must include at least one sentence stating what you have learned from the three dream pursuers in this unit.
- You must include information about the obstacles you may face and how you plan to work at college for your dream job.
- You must use five key words and expressions from the Text and two new words from the other two articles. Highlight these words and expressions.
- You must use one of the writing strategies in this text.

Appendix B 加利福尼亚批判性思维倾向中文版

California Critical Thinking Disposition Inventory—Chinese Version(CCTDI-cv)

亲爱的同学您好，为了了解大学英语教学能否有助于促进大学生的批判性思维能力，我们采用加利福尼亚批判性思维倾向中文版的问卷来开展调查，希望得到您的大力支持，十分感谢！下面是批判性思维能力在性格上所表现出来的一些特质。他们当中有些特质可能你是非常赞同的，有些特质可能你是非常不赞同的，请根据你自己的情况来判定它们。先仔细看清每一特质，并确信你已经理解了它的含义，然后参看下表，在相应的题号下，按照下面的程度说明，选择对应的选项，以表示你对该项目的赞同程度。

Hello, dear students, in order to know whether college English teaching can help to promote college students' critical thinking ability, we use the Chinese version of the California Critical Thinking Tendency questionnaire to conduct a survey, and hope to get your strong support. Thank you very much! The following are some characteristics of critical thinking ability in personality. Some of them may be something you strongly agree with, and some of them may be something you strongly disagree with. Please judge them according to your own situation. First, look carefully at each trait, and make sure that you have understood its meaning. Then, refer to the following table, and under the corresponding title number, according to the following degree description, choose the corresponding option to show your approval of the project.

Q1. 面对有争议的论题，要从不同的见解中选择其一，是极不容易的
Q1. It is difficult to pick one opinion from many opinions when facing a contradictory debate topic.

1. 非常赞同	1. Strongly agree
2. 相当赞同	2. Quite agree
3. 比较赞同	3.Slightly agree
4. 一般赞同	4. Generally agree
5. 相当不赞同	5.Quite disagree
6. 非常不赞同	6.Strongly disagree

Q2.对某件事如果有四个理由赞同，而只有一个理由反对，我会选择赞同这件事

For something, if there are four reasons for supporting it and one reason against it, then I will choose to support it.

1. 非常赞同	1. Strongly agree
2. 相当赞同	2. Quite agree
3. 比较赞同	3.Slightly agree
4. 一般赞同	4. Generally agree
5. 相当不赞同	5.Quite disagree
6. 非常不赞同	6.Strongly disagree

Q3.即使有证据与我的想法不符，我都会坚持我的想法

Even if there is evidence that does not match my idea, I will stick to my idea.

1. 非常赞同	1. Strongly agree
2. 相当赞同	2. Quite agree
3. 比较赞同	3.Slightly agree
4. 一般赞同	4. Generally agree
5. 相当不赞同	5.Quite disagree
6. 非常不赞同	6.Strongly disagree

Q4.处理复杂的问题时，我感到惊慌失措

I was panicked when dealing with complex problems.

1. 非常赞同	1. Strongly agree
2. 相当赞同	2. Quite agree
3. 比较赞同	3.Slightly agree
4. 一般赞同	4. Generally agree
5. 相当不赞同	5.Quite disagree
6. 非常不赞同	6.Strongly disagree

Q5.当我表达自己的意见时，要保持客观是不可能的

It is impossible to remain objective when I express my opinion.

1. 非常赞同	1. Strongly agree
2. 相当赞同	2. Quite agree
3. 比较赞同	3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q6.我只会寻找一些支持我看法的事实，而不会去找一些反对我看法的事实

I will only look for some facts that support my opinion, not some facts that oppose my opinion.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q7.有很多问题我会害怕去寻找事实的真相

There are many questions that I will be afraid to look for the truth.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q8.既然我知道怎样做这决定，我便不会反复考虑其它的选择

Now that I know how to make this decision, I won't think about other options again and again.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

7.

Q9.我不知道应该用什么标准来衡量绝大部分问题

I don't know what standard should be used to measure most problems.

1. 非常赞同	1. Strongly agree
2. 相当赞同	2. Quite agree
3.比较赞同	3.Slightly agree
4.一般赞同	4. Generally agree
5.相当不赞同	5.Quite disagree
6.非常不赞同	6.Strongly disagree

Q10.个人的经验是验证真理的唯一标准

Personal experience is the only criterion to verify the truth.

1. 非常赞同	1. Strongly agree
2. 相当赞同	2. Quite agree
3. 比较赞同	3.Slightly agree
4. 一般赞同	4. Generally agree
5. 相当不赞同	5.Quite disagree
6. 非常不赞同	6.Strongly disagree

Q11.了解别人对事物的想法，对我来说是重要的

It is important for me to know what other people think about things.

1. 非常赞同	1. Strongly agree
2. 相当赞同	2. Quite agree
3. 比较赞同	3.Slightly agree
4. 一般赞同	4. Generally agree
5. 相当不赞同	5.Quite disagree
6. 非常不赞同	6.Strongly disagree

Q12.我正尝试少做主观的判断

I'm trying to make less subjective judgments.

1. 非常赞同	1. Strongly agree
2. 相当赞同	2. Quite agree
3. 比较赞同	3.Slightly agree
4. 一般赞同	4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q13.研究外国人的想法是很有意义的

It is meaningful to study foreigners' ideas.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q14.当面对困难时，要考虑事件所有的可能性，这对我来说是不可能做到的

When facing difficulties, it is impossible for me to consider all the possibilities of events.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q15.在小组讨论时，若某人的见解被其他人认为是错误的，他便没有权利去表达意见

In a group discussion, if someone's opinion is considered wrong by others, he has no right to express his opinion.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q16.外国人应该学习我们的文化，而不是我们去了解他们的文化

Foreigners should learn from our culture, instead of us learning about theirs.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q17.他人不应该强逼我去为自己的意见作辩护

Others should not force me to defend my opinion.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q18.对不同的世界观(例如：进化论、有神论)持开放态度，并不是那么重要

It's not so important to be open to different world views (e.g. evolution, theism)

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q19.各人有权利发表他们的意见，但我不会理会他们

Everyone has the right to express their opinions, but I will ignore them.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q20.我不会怀疑众人都认为是理所当然的事

I won't doubt what everyone takes for granted

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q21.当他人只用浅薄的论据去为好的构思护航，我会感到着急

I feel anxious when others only use shallow arguments to escort good ideas.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q22.我的信念都必须有依据支持

All my beliefs must be supported by evidence.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q23.要反对别人的意见，就要提出理由

If you want to object to other people's opinions, you must give reasons.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q24.我发现自己常评估别人的论点

I find myself often evaluating other people's arguments.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q25.我可以算是个有逻辑的人

I can be regarded as a logical person.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q26.处理难题时，首先要弄清问题的症结所在

When dealing with difficult problems, we must first find out the crux of the problem.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q27.我善于有条理地去处理问题

I am good at dealing with problems in an orderly way.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q28.我并不是一个很有逻辑的人，但却常常装作有逻辑

I am not a very logical person, but I often pretend to be logical.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q29.要知道哪一个是较好的解决方法，是不可能的

It is impossible to know which one is the better solution.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q30.生活的经验告诉我，处事不必太有逻辑

Life experience tells me that you don't have to be too logical in doing things.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q31.我总会先分析问题的重点所在，然后才解答它

I always analyze the key point of the question before I answer it.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q32.我很容易整理自己的思维

It's easy for me to organize my thoughts.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q33.我善于策划一个有系统的计划去解决复杂的问题

I am good at planning a systematic plan to solve complex problems.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q34.我经常反复思考在实践和经验中的对与错

I often think about the right and wrong in practice and experience.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q35.我的注意力很容易受到外界环境影响

My attention is easily influenced by the external environment.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q36.我可以不断谈论某一问题，但不在乎问题是否得到解决

I can keep talking about a problem, but I don't care whether it is solved or not.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q37.当我看见新产品的说明书复杂难懂时，我便放弃继续阅读下去

When I saw that the instructions of new products were complicated and difficult to understand, I gave up reading on.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q38.人们说我做决定时过于冲动

People say that I am too impulsive when making decisions.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q39.人们认为我做决定时犹豫不决

People think that I hesitate when making a decision.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q40.我对争议性话题的意见，大多跟随最后与我谈论的人

Most of my opinions on controversial topics follow those of the last person I talked to.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q41.我欣赏自己拥有精确的思维能力

I appreciate my ability to think accurately.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q42.需要思考而非全凭记忆作答的测验较适合我

Tests that require thinking rather than answering by memory are more suitable for me.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q43.我的好奇心和求知欲受到别人欣赏

My curiosity and thirst for knowledge are appreciated by others.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q44.面对问题时，因为我能做出客观的分析，所以我的同辈会找我作决定

When faced with problems, because I can make objective analysis, my peers will ask me to make a decision.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q45.对自己能够想出有创意的选择，我很满足

I am satisfied that I can come up with creative choices.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q46.做决定时，其他人期待我去制定适当的准则作指引

When making decisions, others expect me to formulate appropriate guidelines for guidance.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q47.我的求知欲很强

I have a strong thirst for knowledge.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q48.对自己能够了解他人的观点，我很满足

I am satisfied that I can understand the views of others.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q49.当问题变得棘手时，其他人会期待我继续处理

When problems get tough, others will expect me to continue to deal with them.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q50.我害怕在课堂上提问

I'm afraid to ask questions in class.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q51.研究新事物能使我的人生更丰富

Studying new things can enrich my life.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q52.当面对一个重要抉择前，我会先尽力搜集一切有关的资料

Before facing an important choice, I will try my best to collect all relevant information.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q53.我期待去面对富有挑战性的事物

I look forward to facing challenging things.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q54.解决难题是富有趣味性的

Solving difficult problems is interesting.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q55.我喜欢去找出事物是如何运作的

I like to find out how things work

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree
6. 非常不赞同　　6.Strongly disagree

Q56.无论什么话题，我都渴望知道更多相关的内容

No matter what topic, I am eager to know more about it.

1. 非常赞同　　1. Strongly agree
2. 相当赞同　　2. Quite agree
3. 比较赞同　　3.Slightly agree
4. 一般赞同　　4. Generally agree
5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q57.我会尽量去学习每一样东西，即使我不知道它们何时有用

I will try to learn everything, even if I don't know when they are useful.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q58.学校里大部分的课程是枯燥无味的，不值得去选修

Most of the courses in the school are boring and not worth taking.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q59.学校里的必修科目是浪费时间的

The required subjects in school are a waste of time.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q60.主动尝试去解决各样的难题，并非那么重要

It is not so important to take the initiative to try to solve all kinds of problems.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q61.最好的论点，往往来自于对某个问题的瞬间感觉

The best argument often comes from the instant feeling of a certain problem.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q62.所谓真相，不外乎个人的看法

The so-called truth is nothing more than personal opinions.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q63.付出高的代价(例如金钱、时间、精力)，便一定能换取更好的意见

If you pay a high price (such as money, time and energy), you will surely get better opinions.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q64.当我持开放的态度，便不知道什么是真，什么是假

When I am open-minded, I don't know what is true and what is false.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q65.如果可能的话，我会尽量避免阅读

If possible, I will try to avoid reading.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q66.对我自己所相信的事，我是坚信不疑的

I firmly believe in what I believe.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q67.用「比喻」去理解问题，像在公路上驾驶小船

Use metaphors to understand problems, like driving a boat on the highway.

1. 非常赞同　　1. Strongly agree

2. 相当赞同　　2. Quite agree

3. 比较赞同　　3.Slightly agree

4. 一般赞同　　4. Generally agree

5. 相当不赞同　　5.Quite disagree

6. 非常不赞同　　6.Strongly disagree

Q68.解决难题的最好方法是向别人问取答案

The best way to solve difficult problems is to ask others for answers.

1. 非常赞同	1. Strongly agree
2. 相当赞同	2. Quite agree
3. 比较赞同	3.Slightly agree
4. 一般赞同	4. Generally agree
5. 相当不赞同	5.Quite disagree
6. 非常不赞同	6.Strongly disagree

Q69.事物的本质和它的表象是一致的

The essence of a thing is consistent with its appearance

1. 非常赞同	1. Strongly agree
2. 相当赞同	2. Quite agree
3. 比较赞同	3.Slightly agree
4. 一般赞同	4. Generally agree
5. 相当不赞同	5.Quite disagree
6. 非常不赞同	6.Strongly disagree

Q70.有权势的人所作的决定便是正确的决定

Q70.A decision made by a powerful person is the right decision.

1. 非常赞同	1. Strongly agree
2. 相当赞同	2. Quite agree
3. 比较赞同	3.Slightly agree
4. 一般赞同	4. Generally agree
5. 相当不赞同	5.Quite disagree
6. 非常不赞同	6.Strongly disagree

Appendix CQUESTIONNAIRE FOR STUDENTS

Professional Doctorate Project: TBL Strategies for developing students' textual understanding and critical thinking abilities in an English intensive reading class

Researcher: Tingting Wang

Dear students,

I'll appreciate it if you can help me complete the questionnaire; however you have the right to omit the questions which are uncomfortable to you.

Thank you for your time and cooperation.

1. How often do you ask questions in class in your university?

A. Very often B. Quite often C. Sometimes D. Seldom E. Never

2. How often do you ask questions in your English intensive reading class in the university?

A. Very often B. Quite often C. Sometimes D. Seldom E. Never

3. Do you enjoy your English intensive reading class? If not, why?

A. Yes B. No

4. Do you think the English intensive reading class can help you with further understanding of the text?

A. Yes, very helpful. B. Yes, have some help. C. No.

5. Do you feel relaxed or tense in your English intensive reading class?

A. Very relaxed B. Relaxed most of the time, but occasionally tense.

C. Very tense D. Tense most of the time, but occasionally relaxed.

6. Do you think it is a good way to listen to the teacher and totally accept his/her illustration of the texts?

A. Yes B. No

7. Do you think the opinion of the text-writer might be wrong?

A. Yes B. No

8. Do you think the teacher's understanding of the text is the only one that the writer tends to express?

A. Yes B. No

9. Do you think the discussions in the English intensive reading class is helpful for your study?

A. Yes, quite helpful. B. Yes, helps a little. C. No.

10. Do you always come up with questions during your reading in this, and how do you deal with them?

A. Yes B. No

11. Do you think you are inspired by teacher-led activities in your English intensive reading class?

A. Yes, quite inspired. B. Yes, a little inspired. C. No

12. I can answerthe questions in the exercises to each text by yourselves after class?

A. all of B. most of C. some of D. none of

13. How often do you have different opinions with the writer in your English intensive reading class?

A. Very often B. Quite often C. Sometimes D. Seldom E. Never

14. How often do you have different ideas with your teacher or your classmates in understanding the text in your English intensive reading class?

A. Very often B. Quite often C. Sometimes D. Seldom E. Never

15. When you have different ideas or understandings to the writer, the teacher or your classmates, you will

A. keep quiet.

B. express your opinion and understanding in class.

C. discuss with the teacher or classmates after class.

D. sometimes will keep quiet and sometimes express.

16. When you choose to keep quiet, you always think

A. There is no need to share my thought with others

B. I'm not quite sure with my understanding

C. I think the teacher or my classmates do not welcome different opinions

D. I just want to be quiet.

17. Are you encouraged to ask questions and share different ideas to your teacher in the English intensive reading class?

A. Yes B. No

18. When you are doing the exercises in your textbooks, you always

A. try to work out the answers by yourself according to your understanding about the text.

B. find the standard answers from the teachers' book.

C. use the standard answers if your understanding is the same as the standard answers; if not, use your own answers.

D. combine your own understanding with the standard answers.

19. Do you believe you think in a different way as before?

A. Yes, quite different. B. Yes, a little different. C. No, the same way as before.

20. Can you find flaws in arguments in the texts now?

A. Yes, always. A. Yes, sometimes. C. Seldom D. Never.

21. Do you always have your own opinion and can find supportive reasons for those flaws?

A. Yes. B. No.

22. Do you enjoy sharing your ideas with others?

A. Yes. B. No.

23. Do you think you have formed the habit of thinking?

A. Yes. B. No.

*_Critical Thinking_ (Stella Cottrell, 2005) is a complex process of deliberation which involves a wide range of skills and attitudes. It includes identifying other people's positions, evaluating the evidence for alternative points of view, weighing up opposing arguments and evidence fairly, being able to read between lines, and etc.

*_Task- Based Language Teaching (TBLT)_ (Richards & Rogers, 2001)refers to an approach based on the use of tasks as the core unit of planning and instruction in language teaching.

Appendix D Suggested questions for the six levels of thinking skills

Knowledge:

In the knowledge level of Bloom's Taxonomy, students are asked with the basic fact questions. Answers for those questions can be found in the reading materials directly without any difficulty. For example, the six elements of a narration: time, places, main characters, and the cause of the story, the process of the story and the ending of the story. Most of them are wh-questions.

Some common examples are:

When did it happen?

Where did it happen?

Who are the main characters?

What happened?

Comprehension:

The comprehension level of Bloom's Taxonomy is little higher than knowledge level. In this level, students have to read beyond the texts. They are expected to understand the facts or the information by thinking. In another word, they have to form their own understanding based on the facts they have found in the previous level. The understanding might vary because of the individual background of student. Their knowledge and experience will affect their understanding. With this level, they will be able to interpret the facts. You are probably recognizing comprehension questions when you use words like describe, contrast, discuss, predict, or paraphrase.

Some common examples are:

Can you describe the …?

What does … mean?

Can you paraphrase…?

What is the main idea of…?

What would happen according to the previous event?

Which statements can support…?

Application:

The level of application is based on the former two levels. With a certain level of comprehension, students with application skills can make use of the knowledge they have learnt for solving problems. They have to gain the information and to have a deep understanding of the information. When they encounter similar problem in their

life or in their study, they are required to be sensitive and can relate to the knowledge they have learnt before. Finally, they apply what they have already in mind to create a feasible solution to that problem.

For example, a student might be asked to write a composition to give suggestions for protecting the environment. With application skill, they can use the knowledge about the pollutions to solve the problem. Teacher can ask questions that use words like complete, solve, examine, illustrate, show, etc.

Some common examples for this category are:

What would result if…?

Can you make use of the facts to…?

How would you solve…?

What elements would you use to change…?

How would you illustrate your plan?

Analysis:

In the analysis level, students can neither use the knowledge directly nor simply apply the knowledge into practice, they will be required to go beyond knowledge and application and to seek for suitable facts or theories or methods to analysis problems, people, event, idea, etc. For example, we can ask students what made the hero had that characteristic. This requires students to read into the background information, analyze the character, event or idea and come to a conclusion based on this analysis. We can ask questions with words like analyze, explain, investigate, infer,etc.

Some common examples for this category are:

What conclusion can you draw?

Why it is an inevitable result?

How would you classify…?

What can you infer from …?

How would you categorize…?

Why did the author arrange the plot in this order?

What is the clue?

Can you identify the different parts…?

If you were the hero, would you do the same thing?

Synthesis:

With synthesis, students are required to use the given facts to create new theories or make predictions. They might have to pull in knowledge from multiple subjects

and synthesize this information before coming to a conclusion. Students are required to re-integrate all the fragmented knowledge they have learned in their minds and systematize them. In other words, they must summarize and organize the knowledge in accordance with their own understanding for future use. When encountering a new problem, students need to recall and extract the required knowledge, sort it out again, form their own ideas and methods for solving problems, and use it to solve new problems. The so-called synthesis does not only refer to the synthesis of knowledge, but also the synthesis of skills. Students need to combine two or more acquired skills together, such as understanding, analysis, and application skills, to improve their problem-solving abilities and strategies. Various level of tasks the teacher designed can lead students achieve the goal step by step. For example, if a student is asked to invent a new product or game, they are being asked to synthesize. You are probably writing synthesis questions when you use words like invent, imagine, create, compose, etc. Some common examples for this category are:

What changes would you make to solve…?

How would you make that better…?

Can you elaborate on the theory that you use in …?

What made you choose that plan?

Evaluation:

The top level of Bloom's Taxonomy is evaluation. Here students are expected to assess information and come to conclusion such as its value or the bias behind it. Students should evaluate opinions, events, people, policies, etc. This requires students to evaluate the target person and things on the basis of understanding, analysis, application, and synthesis. Of course, in the evaluation process, students need to have their own evaluation strategies, including evaluation methods and evaluation standards. These methods and standards are based on usual accumulation and are gradually formed skills. When evaluating a person or event, students should understand the limitations of the times and give an objective evaluation based on the specific background of the times. Summative evaluation includes overall evaluation and evaluation of advantages and disadvantages. For example, this character is generally a great man who promotes historical progress. Specifically, his strengths are his noble character and tough personality, but there are also some shortcomings. Because of the limitations of the times, his vision is not long enough. We can design evaluation questions with words like select, judge, debate, recommend. etc.

Some common examples for this category are:

How would you evaluate…?

How would you judge the …?

If you were the hero, how could you determine…?

What choice would you like to make…?

APPENDIX E Interview Transcript

Interviewee No.13

T: Good afternoon. Thank you for attending this interview. The whole process will be voice recorded on my phone and you can stop at any time if you feel uncomfortable. This data will be kept anonymously. Shall we begin?

S: Sure.

T: What is your deepest feeling about the college English intensive reading class this semester?

S: I feel that the classroom is more open, everyone is encouraged to speak, and in the group discussion, there is no fear of being laughed at if they say the wrong thing. It seems that the classroom atmosphere is very relaxed, but the pressure is not small, because there are tasks all the time. And I don't feel sleepy anymore; instead I am busy with group responsibilities now. I think the college English intensive reading class is more challenging this semester.

T: OK. Then the second question: What do you think your teacher care about most in college English intensive reading classes? Or what does the teacher often emphasize?

S: I think the teacher cared most on whether we were thinking or not. And she always taught us some skills about critical thinking and encouraged us to practice them. When we were conduct group tasks, she always reminds us that we should think, express, and share.

T: Thank you. The third question is about group work: How do you feel about working in groups to complete tasks?

S: Working in groups is interesting. We don't feel nervous because we have time to discuss. And different opinions crush so that only strong opinions can survive.

T: What do you mean by "strong opinions"?

S: I mean opinions with strong supporting evidence.

T: Did you encounter difficulties when you were the team leader? How did you solve it?

S: Yes, when I was the team leader I found that easy sub-tasks were easy to assign, but some difficult sub-tasks were difficult to assign. Some group members they preferred to pick up the easy one. So I asked them to take turns for picking the sub-tasks.

T: Do you have any tips for organizing group activities?

S: I suggest that group members should take turns to be the group leader, so that they can understand the difficulty of the group leader, and also let the group leader know

the problems that the group members will encounter.

T: If you were a teacher, what other changes would you make in the English intensive reading class?

S: I hope that the university can allow us to move the classroom out in good weathers. Learning outside the classroom will make me want to read more actively than passively. I'm more daring to speak, and I won't feel pressed by the classroom.

T: Any other suggestions?

S: Maybe some tasks can be given to us before the class so that we have more time to prepare.

T: Ok. The last question is: What pressures or challenges have the changes in classrooms and test content brought to you? What kind of help is needed?

S: The biggest challenging for me is to change the way of thinking. Critical thinking is a scientific thinking method and is beneficial; however it is not easy to use it unconsciously. So I think I need more practice to form the habit of critical thinking. And as a group leader I also suffered time pressure in group tasks. I always found that the time for group discussion was so limited, and I think my group members have the same pressure with me. That's why I suggest to be given some of the tasks before class. Given more time, we will provide better result.

T: Ok, that's all for the interview. Thanks again for your time.