



An Empirical Study on Chinese EFL Learners' Critical Reading Strategies

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Abstract

Critical reading is of great importance in foreign language learning. This paper reports an empirical study on Chinese EFL learners' critical reading strategies. The subjects were 120 senior high school English learners, and the instruments included a questionnaire and a reading test paper. Detailed analysis of the quantitative data by SPSS22.0 has yielded the findings as follows: (1) Most learners were in urgent need of training on the proper choice and use of critical reading strategies. (2) Significant differences were found to exist between high-score and low-score group regarding structure analysis, rhetoric analysis and holistic evaluation. (3) Both high score and low score learners were found be less skilled in using the strategy of background analysis. It is suggested that the positive critical reading strategies should be encouraged and fostered in English language teaching and learning.

Key words: Critical reading strategy; Chinese EFL learners; TEFL

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INTRODUCTION

Critical reading is of great importance in second and foreign language learning. According to *English Curriculum Standards for Senior High School* (Ministry of Education of the People's Republic of China, 2017), critical thinking ability is one of the core qualities of senior high school English learners, and the students are required to be equipped with the critical thinking ability, like classification, summarization, analysis, speculation, deduction etc. The Curriculum Standards are proposed with a view to cultivating and developing EFL learners' critical thinking ability, which is generally acknowledged as one of the focuses of the TEFL reform in China. Nevertheless, Complaints have been heard from students that it is difficult for them to obtain information selectively within the required time. This is indeed quite frustrating to senior high students, so how they can get a good return for the efforts they put in reading is an urgent issue.

In effect, there are many studies on critical reading since it is a quite complex activity. Lewis (1991) applied critical reading to language teaching and believed that the role of critical thinking can be reflected in reading during and after comprehension. Li (2010) proposed a comprehensive classification method of critical reading ability, which provides a direction for the English critical reading test. She divided the abilities into four levels: structure analysis ability, rhetoric analysis ability, social relevance ability and holistic evaluation ability. Bosley (2008) found that the senior high school reading teaching focused more on passive reading and most students don't have experience of learning critical reading. In view of this, he considered that in the reading teaching, students not only developed the awareness of critical reading, but also learned to use appropriate critical reading strategies.

In China, since last decade, critical reading has received growing attention. Some studies focus on the theories of critical reading teaching which do not witness much empirical research on students, especially senior high EFL learners.

1. LITERATURE REVIEW

1.1 Key Terms

The definition of critical thinking can be traced back to Socrates in ancient Greek, whose "Socratic Questioning Method" underlines the need of logical systems. Dewey (1909) stated that critical thinking was a way of thinking, putting forward that "critical thinking is the positive, persistent and thorough thinking of any belief or hypothesis and the basis on which it is based and the conclusion further derived". Ennis (2011) regarded critical reading to be a logical and rational thinking ability, including reflective and independent arguments.

Critical reading is the application of critical thinking in reading. According to Harris & Hodges (1981) who made the first clear and systematic definition of critical reading, "critical reading refers to the process of reading the text to make a judgment, and properly evaluate the contents of the reading". In the past, critical reading readers always express their opinions according to the text and their opinions. Pirozzi (2003) gave a clearer definition as follows: critical reading is a deep understanding of the text, the definitions of critical reading include the ability to interpret and evaluate, to distinguish between important and trivial information, to determine a writer's purpose and tone. Pirozzi (2003) also believed that readers should have the ability to deduce the author's implications and draw reasonable conclusions through logical analysis. Zhang & Xie (2012) thought that, critical reading is a kind of reading model developed by western countries for cultivating people's critical thinking ability. Critical reading is often regarded as a careful, active, reflective and analytic reading that involves the ability of interpreting, analyzing, evaluating, inferring and self-monitoring.

Garrigus (2002) and Pirozzi (2003) summarized several critical reading strategies: 1) before reading, readers always have clear reading purpose or goals; 2) while reading, they will ask questions and try to answer question by themselves; 3) readers may adjust their reading rate faced with different level of effort allotment and reasonable time; 4) readers will also use their previous information and knowledge to make logical conclusions. Vivanco (2012) designed several critical reading strategies which are divided into two steps. The first step is to read academic papers critically, searching for the background of the author, understanding the quality and quantity of the relevant research, evaluating the hypotheses and conclusion of the study, identifying the purpose, collecting the data. The second step is to conduct a five-minute conversation on the subject after finishing reading, and then clarify the purpose of the article and the effect of the research.

1.2 Previous Studies on Critical Reading

1.2.1 Relevant Studies in China

Previous studies on critical reading in China can also be classified into the following three parts.

Firstly, in the terms of theoretical basis, He & Liu (2003) pointed out that by critical reading, readers are expected to judge and evaluate the authenticity, efficiency and value of the reading materials according to certain principles and standards. They further identified three common ways of thinking (namely analysis, speculation and evaluation) and proposed five reading strategies (namely preview, annotation, analysis, stress and reflection).

Secondly, in the terms of study on critical reading strategies, Zhang (2009) proposed that critical reading is a kind of deep reading, which requires readers to use the methods of critical thinking such as prediction, analysis, questioning, inference, summarization and judgment in the process of reading to achieve a deep understanding on the reading material. According to Shao (2018), the development of creatical reading ability should take into consideration such factors as teaching decision-making, text interpretation, and linguistic expression.

Thirdly, in the terms of empirical study on critical reading, Wu (2003) explored how to cultivate students' critical thinking in English reading class. Li (2010) made investigations on students' critical reading ability and found that whether in colleges or high schools students' critical reading abilities are at a low level. Previous studies on critical reading at abroad can be classified into the following three parts.

1.2.2 Relevant Studies Outside China

Firstly, Wallace (2008) made a comprehensive and specific explanation on the concept of critical reading, he believed that critical reading is a process when the readers, context and the author interact with each other. Readers can dig up the deep values and emotions through the shallow literal meaning of the context. Kato (2012) focused the combination of theory and practice and provided a series of progressive critical reading skills for teachers and students, which have practical guiding significance on critical reading teaching.

Secondly, in the terms of the critical reading in teaching practice, Bosley (2008) indicated that many students pose negative attitudes to reading and they are used to passive reading. They acquire knowledge from the books and lack the ability of critical reading. Many schools also lack some courses about critical reading, and the classroom is hard to build an environment of constructing knowledge. He believed that teachers should focus on the teaching and training on critical reading strategies. Wilson (2016) argued that critical reading pedagogy can be realized in different ways, but students' critical dispositions, in particular, requires delicate scaffolding to support their development as critical meaning-makers. Such scaffolding pushes students to develop deeper critical skills.

Thirdly, in the terms of critical reading in teachers' part, Vivanco (2012) conducted critical reading teaching using academic papers as the reading materials. The reading materials not only inspire students to think critically and involve themselves in their oral English

activities, but also has a significant effect on the students' thinking ability. Karadag (2014) adopted an approach to explore junior middle school teachers' views towards critical reading skills and the results reveal that teachers lack the skills that critical literacy requires and they are unaware of critical reading strategies applied throughout their teacher education.

1.3 Perspective of This Study

The above studies have indeed made great achievements, but most studies focus on the teachers' part without paying enough attention to the learners. Few experimental studies on critical reading in China have been done on senior high school students' critical reading ability. There is no empirical study to further investigate the different critical reading use strategies between high score students and low score ones.

Therefore, this study adopts an empirical method to survey senior high school students on their critical reading use strategies so as to find the general picture of critical reading use and the differences between good and poor students.

This study applies Li's (2007) four level critical reading abilities as the instrument of the experiment and the reference to evaluate students' critical reading ability.

2. RESEARCH METHODOLOGY

2.1 Research Questions

The study aims to address the following two questions:

- (1) What is the general picture of critical reading ability among senior high school students?
- (2) Are there any differences between high score and low score students in their use of critical reading strategies? If any, what are they?

2.2 Research Design

2.2.1 Subjects

The subjects of this research are 120 students of Grade 2 in NO.2 Senior High School of Suzhou Industrial Park. The participants are all 17-18 years old with at least seven years of English learning experience. The Grade two students were chosen for several reasons. First, Grade one students have just entered high school and are in the period of adjusting themselves to the new environment. More importantly, they are much less familiar with the critical reading strategies. And Grade three students were not chosen because they are faced with the college entrance exam and lack the time and energy to join the research.

2.2.2 Instruments

In this research, two main instruments are employed, namely a reading test and a questionnaire.

2.2.2.1 Pre-test

In this test, the reading materials of the college entrance exam in Jiangsu province are used to measure the

students' critical reading level. Then the scores are given so as to ensure the validity and reliability of the results.

2.2.2.2 Questionnaire

In this questionnaire, there are 30 questions all about critical reading strategies. According to the types of critical reading strategies, it can be divided into four parts. The first is the strategies about structure analysis, the second is the strategies about rhetorical analysis, the third is the strategies about background analysis and the final one is the strategies about holistic evaluation.

Its form is multiple-choice. Each question has five choices, which are Absolutely never suitable for me; Usually not suitable for me; Somewhat suitable for me; Usually suitable for me; totally suitable for me. According to the Likert's five point scale, scores are given to represent the choice: Absolutely never suitable for me =1, Usually not suitable for me =2, Somewhat suitable for me =3, Usually suitable for me =4, totally suitable for me =5. Students are required to choose one item according to the requirements and their actual situation. The questionnaires are collected and the data is analyzed. From the questionnaires about 60 students of different grades, we can analyze different strategies of reading and find which strategies have relationships to the grades.

2.3 Data Collection and Analysis

2.3.1 Data Collection

The survey was conducted in April, 2019. 120 copies of copies of the questionnaire of critical reading strategies use were distributed and were all retrieved. 10 copies were excluded because of their invalidity. The subjects were given fifteen minutes to finish the questionnaire. The questionnaire was printed in a sheet in Chinese to help senior high school students understand deeply. Both the test and questionnaire were under the supervision of their English teachers.

2.3.2 Classifying High Score and Low Score Students

Table 1
Classification of High-Score and Low-Score Groups

	Mean	Std. Deviation
High scores (N=30)	29.26	2.15
Low scores (N=30)	18.33	2.24

Another question this study attempts to answer is whether there is any difference between high score and low score students. 120 subjects from senior high school grade 2 students took the critical reading test mentioned above. Based on the scores, the top 30 students were grouped as high score students while bottom 30 poor students were grouped as low score students. After close statistic examination, it is found that a significant difference (Table 1) exists between the two groups, testifying to the validity of such classification.

2.3.3 Data Analysis

Statistical analyses were concluded after the analysis of questionnaires. There were two levels of analysis: first,

to reveal the general picture of critical reading strategies; second, independent sample T-tests were carried out with a view to finding out the similarities and differences between high score and low score students. Differences were regarded as significant below the 0.05 significance level.

3. RESULTS AND DISCUSSION

The part is composed of two subparts. The first subpart provides a report and discussion of general situation of critical reading ability. The second subpart presents the comparison and discussion of high score and low score students by showing their differences in using critical reading strategies.

3.1 Descriptive Statistics About Critical Reading Strategies

According to Li's (2007) classification of critical reading ability, the strategies about critical reading can be grouped into four parts. The four parts are strategies about structure analysis; strategies about rhetoric analysis; strategies about background analysis; strategies about holistic evaluation.

Table 2
Descriptive Statistics About Critical Reading Strategies

Sections	N	Minimum	Maximum	Mean	Std. Deviation
SA1	60	1.30	4.8	3.3133	1.299
SA2	60	1.86	4.41	3.1571	.429
SA3	60	1.67	3.00	2.4556	.102
SA4	60	1.78	3.89	2.8685	.376

Note: SA1= strategies about structure analysis
SA2= strategies about rhetoric analysis
SA3= strategies about background analysis
SA4= strategies about holistic evaluation

Table 2 shows the frequency use of critical reading strategies between high score students and low score ones. Students' structure analysis ability is at the highest level and students' background analysis ability is at the lowest level. In the current English reading test, many questions are about summarizing the main ideals, inferring new words from the context and deducing sentence inference in context. So students faced with the structure analysis questions will be more confident. However, the background analysis is not favorable as well. It is easily ignored by the students in daily study. It is difficult for them to have a comprehensive understanding on the context without the background knowledge, let alone analyze or appreciate the context.

3.2 Comparison Between High Score Students and Low Score Students

3.2.1 The difference of the two groups

By using the test of significant difference between ratios, there are significant differences between the two groups.

Table 3
Differences Between Strategies About Structure Analysis

	Low scores (N=30)		High scores (N=30)		T	P
	Mean	Std. Deviation	Mean	Std. Deviation		
S1	2.53	.629	4.57	.504	13.820	.000***
S2	2.43	.679	4.33	.547	11.939	.000***
S3	2.13	.776	4.37	.556	12.813	.000***
S4	2.27	.740	4.27	.583	11.629	.000***
S5	2.13	.730	4.50	.572	13.971	.000***
S6	2.23	.817	4.33	.711	10.618	.000***
S7	2.10	.759	4.13	.730	10.575	.000***
S8	2.17	.747	4.40	.563	13.079	.000***
S9	2.27	.740	4.60	.563	13.746	.000***
S10	1.93	.640	4.57	.626	16.114	.000***

*, P<0.05; **, p<0.01; ***, p<0.001

S1= strategies about predicting the content of the article according to the title, subtitle

S2= strategies about guessing the meaning of new words according to the context

S3= strategies about inferring the meaning of the sentence reasonably according to the context

S4= strategies about summarizing the main idea of the article

S5= strategies about finding the paragraph topic sentence

S6= strategies about paying attention to connectives, transition words or cohesive words to clarify the overall structure of the article

S7= strategies about paying attention to conjunctions, transition words or cohesive words to clarify the organizational structure of paragraphs

S8= strategies about distinguishing between facts and opinions

S9= strategies about distinguishing between different points of view

S10= strategies about distinguishing between the author's thesis and sub - thesis

Several findings emerged from table 3:

High score students use structure analysis more often than the low score students, the difference between them are significant (p<0.001). There are many reasons accounting for it, one of which is that in different kinds of English reading test, there are some questions about structure analysis and summarizing such as the last question in some passages may chose the most suitable title and answer what the author mainly argues for. High score students using the critical reading strategies about structure analysis have a better understanding of the passage and can clarify the overall structure of the article. Faced with the main idea questions and paragraph organization questions, the high score students can solve them easily. In addition, the high score students have a better understanding of the authors' facts and opinions than the low score students so when they meet the questions, the former will know the passage clearly and achieve high scores. It is therefore important for teachers to advise students to focus on the structure analysis. Teachers should help their students become more sensitive to the title, subtitle and the paragraph topic sentences.

Table 4
Differences Between Strategies About Rhetoric Analysis

	Low scores (N=30)		High scores (N=30)		T	P
	Mean	Std. Deviation	Mean	Std. Deviation		
S11	4.53	.507	4.83	.379	2.594	.012*
S13	2.20	.714	4.30	.596	12.364	.000***
S14	4.00	.587	4.13	.681	.812	.420
S15	2.30	.750	4.53	.571	12.977	.000***
S16	2.27	.868	4.50	.630	11.404	.000***
S17	2.20	.761	4.37	.556	12.590	.000***
S21	2.57	.728	4.23	.626	9.508	.000***
S29	2.30	.651	4.30	.702	11.438	.000***

*, P<0.05; **, p<0.01; ***, p<0.001

S11= strategy about Identifying the genre of the article

S13= strategy about judging the author's attitude towards the topic by his diction

S14= strategy about making clear the author's intention of using simile, metaphor and other rhetorical devices

S15= strategy about identifying the author's purpose

S17= strategy about distinguishing the author's argument and the evidence

S21= strategy about identifying potential assumptions in the author's argument

S29= strategy about making reasonable inference from the passage

From Table 4, it can be found that high score students are more conscious of the rhetoric analysis than low score ones. However, in the strategies about making clear the author's intention of using simile, metaphor and other rhetorical devices, both groups achieved high scores. We can find that students master the rhetorical devices well. Teachers can keep the formal training on the rhetorical devices, but for the other rhetoric analysis strategies, the two groups have significance differences (p<0.001). The high score students clearly recognize the importance of the rhetoric analysis, they will be bound to consider the rhetoric analysis when reading. Through rhetoric analysis, high score students can identify potential assumptions in the author's argument and make reasonable inference from the passage. Nevertheless, low score ones neglect this significant part for they consider the semantic meaning as the only meaning of the text, which makes their reading out of high level analysis. For example, the low score one cannot judge the author's attitude towards the topic by his diction. What teachers should do is to make students clear about semantic meanings and the author's intention which are crucial to the critical reading.

As Table 5 suggests, high score students, to a large extent, have established the holistic evaluation since they will write a synopsis of the content or express their own views on the context. However, most low score students don't have this kind of consciousness. They are used to treating reading exercises as a burdensome assignment. What's more, students lack interest in reading new contexts and acquiring new knowledge. So students could also be recommended to express their own views. In the

reading class, students will read China Daily, English teachers would be obliged to tell their students to write a synopsis of the content and encourage students to put forward their own opinions which contribute a lot to the formation of critical reading ability.

Table 5
Differences Between Strategies About Holistic Evaluation

	Low scores (N=30)		High scores (N=30)		T	P
	Mean	Std. Deviation	Mean	Std. Deviation		
S18	2.33	.711	4.23	.626	10.984	.000***
S19	2.17	.747	4.50	.572	13.585	.000***
S20	3.20	.340	4.37	.291	14.272	.000***
S22	2.93	.734	4.18	.468	7.892	.000***
S23	2.40	.770	4.47	.629	11.385	.000***
S27	2.37	.669	4.07	.640	10.062	.000***
S28	2.30	.535	4.37	.556	14.670	.000***
S30	2.20	.664	4.00	.525	11.641	.000***

*, P<0.05; **, p<0.01; ***, p<0.001

S18= strategy about judging whether the argument strongly supports the author's point of view

S19= strategy about determining whether the argument is relevant to the topic

S20= strategy about judging whether an argument is true or not

S22= strategy about identifying the target audience for an article

S23= strategy about judging whether an article meets the reading purpose

S27= strategy about expressing personal views on the thesis

S28= strategy about comparing and analyzing the author's point of view with their own

S30= strategy about writing a synopsis of the content

3.2.2 The Similarities of the Two Groups

A significant difference exists between the two groups, but there are some similarities in the two groups

Table 6
The Similarities of the Two Groups

	Low scores (N=30)		High scores (N=30)		T	P
	Mean	Std. Deviation	Mean	Std. Deviation		
S12	2.60	.498	2.77	.626	1.141	.259
S24	2.53	.407	2.55	.589	-.112	.800
S25	2.30	.466	2.40	.563	-.423	.457
S26	2.67	.931	2.66	.943	.0242	.981

P>0.05

S12= strategy about determining credibility based on the source of the article

S24= strategy about relating to your own experience and helping you understand and analyzing the author's point of view.

S25= strategy about learning the relevant background knowledge

S26= strategy about evaluating the article objectively with relevant background knowledge

Several findings emerged from Table 6:

In terms of the background analysis, their difference is not significant. In fact, this part is often neglected by both high score students and the low score one. One important fact is they lack such awareness. Insufficient

relevant background knowledge will hinder students' text comprehension, let alone their ability to analyze or appreciate the passages. Therefore, it's indispensable for teachers to cultivate students' background analysis ability in reading class. During the reading class, teachers can encourage students to read and cultivate their reading interest. Students could also be recommended to read the China Daily Newspaper to accumulate background knowledge.

With respect to determining its credibility based on the source of the article, neither the high score students nor the low score students have the ability to determine it ($p=0.259$). As a matter of fact, the ability to determine its credibility can contribute a lot to the analyzing the passage and having a general impression of the context. It is helpful for the cultivation on critical reading ability.

CONCLUSION

The major findings obtained from the empirical surveys of this study are reported and presented in the following part. It can be classified into two parts: the descriptive findings and the inferential findings.

In the descriptive findings, it shows that the critical reading strategies are not prevalent in senior high school. On the one hand, some students do not understand the meaning of critical reading ability, but there are still a few students who obtain high scores and have a deep understanding of the critical reading ability. In the pre-test, they achieve high scores and they possessed some critical reading strategies. For most students, they all need to acquire this kind of critical reading ability.

In the inferential findings, the differences between the high score and low score students are presented. We find that the former have the habit of commenting. They have formed a habit of marking topic sentences, general ideas, definitions, questions and comments, as well as questions, language usage and style awareness which are often neglected by the latter. High score students are accustomed to summarizing, analyzing, reasoning and judging during reading while the low score ones fail to make full use of them. Moreover, quite a few students have established the habit of thinking feedback and holistic evaluation in reading. Furthermore, high score students are more industrious since they often express their own views on the thesis and write a synopsis of the content after reading.

From the aforementioned similarities between them, it is apparent that there exist some problems. Both lack interest in English reading, showing a serious state of passive reading. Apart from it, neither of them pays attention to background analysis. They cannot relate their own experience to help them understand and analyze the author's point of view.

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