

Original Paper

A Study on the Critical Thinking Disposition of English Major Students -- A Case Study of Undergraduate English Majors at S University

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Abstract

This article focuses on undergraduate English majors at S University as research subjects, using the Chinese revised version of the California Critical Thinking Disposition Inventory (CTDI-CV) by Peng Meici. Using SPSS 26.0, the study analyzed the current status of critical thinking disposition among S University students and the differences in scores among different groups. The following conclusions were drawn: Overall, the critical thinking disposition of S University undergraduate English majors is at a moderate to high level, and there are varying degrees of differences among different student groups in terms of gender, parents' education level, grade, high school type, and whether they have taken the "English Speech and Debate" course. Based on these survey results, corresponding suggestions are provided.

Keywords

critical thinking disposition, English major, English Speech and Debate Course

1. Introduction

As one of the many ways of human thinking, critical thinking has been valued by researchers in Western countries since the 1930s. With the continuous improvement of research techniques and methods, as well as the sharing of research results among countries, critical thinking research has gradually deepened and a large number of research results have emerged. Its influence is expanding, and people's attention to critical thinking is constantly increasing. Critical thinking has become one of the core skills in current education. The latest "National Standards for Teaching Quality in Foreign Language and Literature" (new "national standard") specifies that foreign language majors should achieve the comprehensive requirements of three aspects: quality, knowledge, and ability. Cultivating

“foreign language professionals and compound foreign language talents that adapt to China’s foreign exchanges, national and local economic and social development, various foreign-related industries, foreign language education and academic research needs” is listed as a training goal. Therefore, investigating and studying the critical thinking disposition of undergraduate students majoring in English at our school is crucial.

2. Research Methods

2.1 Literature Research Method

The literature research method refers to the method of collecting and organizing literature materials, sorting out the research process and depth of the current research objects at home and abroad, and then having a more accurate understanding of the current project. This study extensively consulted domestic and foreign literature materials on critical thinking research, and studied and sorted them out to accumulate theoretical experience and practical guidance for the next step of research.

2.2 Data Analysis Method

The data analysis method refers to the method of using data analysis software and appropriate data analysis methods to analyze existing data to the greatest extent possible and summarize the conclusions. This project uses data analysis software SPSS26.0 and applies mathematical statistics methods to import and analyze the questionnaire data results of the project. The analysis and discussion of the results of the critical thinking disposition questionnaire evaluation include the analysis and discussion of the results of the critical thinking disposition questionnaire evaluation and the evaluation results of the seven indices of critical thinking disposition.

3. Research Design

3.1 Research Object

The research object of this study is undergraduate English majors from S University, differentiated by gender, parental education level, grade, type of high school attended, and whether they have taken the course “English Speech and Debate”. The survey was conducted in the form of questionnaire sampling, with a total of 203 questionnaires submitted. After excluding 3 invalid questionnaires, 200 valid questionnaires were obtained, with 50 for each grade from freshman to senior, with a valid rate of 98.52%.

3.2 Research Method

The revised Chinese version of the “California Critical Thinking Disposition Inventory” (CTDI-CV) by Peng Meici is used as the survey questionnaire. The questionnaire investigates students’ critical thinking disposition from seven indices: truth-seeking, open-mindedness, analytical ability, systematic analysis, self-confidence, good questioning, and cognitive maturity. Each index has 10 questions, including 30 positive questions and 40 negative questions. For each question, the respondents need to choose one option from six options ranging from “strongly agree” to “strongly disagree”. Each question is scored

from 1 to 6 points, and the total score of each index is 60 points. The questionnaire provides eight types of scores: single scores of each index and the total score of all indices. The scoring range for each index is 10-60 points, with 40 points as the boundary value between positive and negative critical thinking disposition, and 50 points as the boundary value between moderate and strong disposition. A score below 40 indicates a poor critical thinking disposition, 40-50 indicates a moderate level, and above 50 indicates a strong critical thinking disposition. The score range for the total inventory is 70-420 points, with scores below 210 indicating a poor critical thinking disposition, scores between 210-280 indicating a moderate level, and scores above 280 indicating a strong critical thinking disposition.

4. Results and Analysis

4.1 The Current Situation of Critical Thinking Disposition among Undergraduate English Majors in S University

Table 1. Total Score of Critical Thinking Disposition among Undergraduate English Majors in S University

	Minimum ~ Maximum	Mean ± Standard Deviation	<210 points (figure/%)	≥210 points<280 points (figure/%)	≥280 points<350 points (figure/%)	≥350points (figure/%)
Total scores	215 ~ 366	266.989±31.347	0	141/70.5%	56/28%	3/1.5%

As shown in Table 1, the average total score of critical thinking disposition among undergraduate English majors in S University is 266 points. According to the scoring standard of CTDI-CV, the overall level of critical thinking disposition among English majors in the university is moderate, slightly lower than the critical value (280 points). Among them, only three students, accounting for 1.5% of the total number, scored above 350; most students' scores are in the upper-middle level of the moderate range, and no students scored below 210. Overall, the average level of critical thinking disposition among undergraduate English majors in S University is upper-middle; low-level students are not found in the results, but only few students have a high level of critical thinking disposition, and most students are at a moderate level.

Table 2. Scores of Various Indices of Critical Thinking Disposition among Undergraduate English Majors in S University

	Minimum ~ Maximum	Mean ± Standard Deviation	<30 (figure/%)	30-40 (figure/%)	>50 (figure/%)
Truth-seeking	10~53	37.005 ±8.626	30/15%	92/46%	78/39%
Open-mindedness	18~57	38.875 ±7.179	15/7.5%	95/47.5%	90/45%
Systematic analysis	22~60	38.205 ±6.853	15/7.5%	107/53.5%	78/39%
Analytical ability	22~60	36.87 ±5.398	13/6.5%	138/69%	49/24.5%
Self-confidence	20~55	37.02 ±7.826	34/17%	94/47%	72/36%
Curiosity	23~59	39.255 ±7.291	16/8%	97/48.5%	87/43.5%
Cognitive maturity	10~59	39.525 ±9.401	25/12.5%	71/35.5%	104/57%

Table 2 shows the scores of various indices of critical thinking disposition among undergraduate English majors in S University. According to the table, the ranking of difference among the indices is: cognitive maturity, truth-seeking, Self-confidence, curiosity, open-mindedness, analytical ability, and systematic analysis. This indicates that the participants have significant differences in cautious judgment and objectivity of seeking truth, while they show similar levels of systematically analyzing problems and widely seeking advice. In addition, the higher indices in the average score rankings are cognitive maturity, curiosity, open-mindedness, and analytical ability. The lower ones are systematic analysis, self-confidence, and truth-seeking, but all are lower than the positive critical value of 40. Further analysis shows that the proportion of people with scores below 30 (a negative critical thinking disposition) in self-confidence and truth-seeking is relatively high, accounting for 17% and 15%, respectively. The proportion of people with scores above 50 (a positive and strong critical thinking disposition) in cognitive maturity and open-mindedness is 57% and 45%, respectively, indicating that students in the university perform well in these two indices. Overall, although there are minor differences among the seven indices, undergraduate English majors in S University are still at a weak level.

4.2 Differences in Critical Thinking Disposition among Different Groups

Table 3. Scores of Total Scores and Various Indices of Critical Thinking Disposition among Males and Females

	Female (158)	Male (42)
Truth-seeking	36.965 ±7.847	37.103 ±10.427
Open-mindedness	39.331 ±6.972	37.759 ±7.669
Systematic analysis	37.979 ±6.785	38.759 ±7.104
Analytical ability	36.944 ±4.932	36.690 ±6.481

Self-confidence	36.056±7.681	39.379±7.806
Curiosity	39.127±7.277	39.569±7.444
Cognitive maturity	40.415±8.890	37.345±10.381
Total scores	266.817±29.626	266.603±33.038

Table 3 shows total scores and the scores of various indices of critical thinking disposition among male and female undergraduate English majors in S University. According to the table, females scored higher than males in open-mindedness, systematic analysis, and cognitive maturity, which indicates that female undergraduate students in the university tend to think in a more open, rigorous, and systematic way. Males scored higher in truth-seeking, analytical ability, self-confidence, and curiosity, indicating that they can think more objectively, accept other opinions broadly, and trust their own judgments more. In terms of total scores, females' critical thinking disposition scores are slightly higher than males', and the standard deviation is smaller than males', which indicates that female students have more concentrated distribution of critical thinking disposition scores and less difference in scores, while the distribution range of male students' scores is larger, and the score differences are larger.

Table 4. Scores of Total Scores and Various Indices of Critical Thinking Disposition among Different Grades

grades	Total scores	Truth-seeking	Open-mindedness	Analytical ability	Systematic analysis	Self-confidence	Curiosity	Cognitive maturity
Freshman year	254.440±25.415	36.920±6.314	37.195±7.906	34.120±5.355	36.800±4.508	35.520±8.117	36.280±6.943	38.000±8.732
Sophomore year	260.840±27.870	37.400±7.123	37.290±7.655	37.940±6.491	35.980±5.593	37.120±7.860	38.780±6.254	37.080±10.075
Junior year	262.820±30.246	37.820±7.093	36.441±8.220	39.060±5.892	35.700±4.991	37.900±7.424	38.920±6.712	38.480±9.285
Senior year	288.920±27.393	43.360±6.455	41.746±7.386	41.700±7.473	39.000±5.962	37.540±7.988	43.040±7.785	44.540±7.843

Table 4 shows total scores and the scores of various indices of critical thinking disposition among students in different grades. According to the table, the total score of critical thinking disposition increases with the year of study, indicating that the critical thinking disposition has been improving throughout students' professional learning. From the scores of various indices, open-mindedness, analytical ability, curiosity, and cognitive maturity show a significant positive correlation with grade. Overall, the curriculum design in the university has a positive and significant effect on cultivating students' critical thinking disposition.

Table 5. Scores of Total Scores and Various Indices of Critical Thinking Disposition among Students Graduating from Different Types of High Schools

Senior high school type	Total scores	Truth-seeking	Open-mindedness	Analytical ability	Systematic analysis	Self-confidence	Curiosity	Cognitive maturity
ordinary high schools	261.805±28.912	36.280±6.943	37.366±7.013	38.366±6.602	35.634±6.244	37.195±7.906	39.244±7.259	37.756±10.064
municipal key high schools	266.570±30.679	38.780±6.254	39.260±6.989	37.530±6.684	37.160±4.739	37.290±7.655	39.470±7.042	39.230±9.156
provincial key high schools	270.508±31.492	38.920±6.712	39.271±7.643	39.237±7.330	37.237±5.820	36.441±8.220	38.898±7.882	41.254±9.295

Table 5 shows total scores and the scores of various indices of critical thinking disposition among students who graduated from different types of high schools. Among the participants, 100 students (50%) were from municipal key high schools, while 59 and 41 were from provincial key high schools and ordinary high schools, respectively, representing 29.5% and 20.5%. As shown in the table, except for analytical ability, the scores of provincial key high school students were the highest, while the scores of ordinary high school students were the lowest, except for analytical ability. This may be because better high schools have higher admission standards and require students to have excellent academic achievements and comprehensive qualities, which means that students who enter provincial key high schools often have strong learning ability and critical thinking disposition. Moreover, entering high school means having access to more educational resources, rich curriculum design, excellent faculty, advanced teaching equipment, which can provide students with better education and help them develop good habits of critical thinking. From a student's perspective, their own efforts and enthusiasm often lead to higher self-expectations and goals, which encourages them to think critically and exchange ideas, further improving their critical thinking skills.

Table 6. Scores of Total Scores and Various Indices of Critical Thinking Disposition among Students with Parents of Different Educational Levels

Father	Mother	Total scores	Truth-seeking	Open-mindedness	Analytical ability	Systematic analysis	Self-confidence	Curiosity	Cognitive maturity
	Bachelor's degree or above	276.600	41.400	38.650	38.350	40.000	40.100	40.000	40.000
Bachelor's degree or above	Bachelor's degree/Associate degree	255.727	36.818	34.727	35.545	32.909	36.455	40.636	32.909
	High school/Technical school	286.250	42.750	44.250	36.000	40.250	39.250	43.750	40.250
	Primary school/Junior high school	238.000	35.000	33.000	40.000	39.000	33.000	32.000	33.000
Bachelor's degree/Associate degree	Bachelor's degree or above	268.630	39.130	36.870	38.283	35.826	38.435	41.609	36.870
	Bachelor's degree/Associate degree	267.000	38.760	39.400	36.600	38.760	41.680	37.440	39.460
	High school/Technical school	261.727	39.182	36.091	36.727	36.000	37.545	38.455	36.091
	Primary school/Junior high school	255.500	36.000	37.000	40.000	37.500	30.500	33.500	37.000
High	Bachelor's degree or above	264.650	38.000	38.550	36.600	35.350	37.900	42.550	38.550

school/Technical	Bachelor's degree/Associate degree	257.541	39.162	39.541	36.243	36.486	39.730	39.865	39.541
school	High school/Technical school	253.727	39.146	36.187	36.463	36.090	37.983	38.875	36.187
	Primary school/Junior high school	231.000	25.000	44.000	29.000	54.000	44.000	15.000	25.009
Primary	Bachelor's degree or above	279.667	46.333	40.000	32.667	30.333	43.333	48.000	46.333
	Bachelor's degree/Associate degree	267.950	38.983	39.284	36.028	38.486	41.286	37.192	38.983
school/Junior	High school/Technical school	258.400	35.400	40.067	35.600	39.667	41.200	34.333	35.440
	Primary school/Junior high school	245.750	40.000	31.250	34.500	39.250	38.500	27.750	40.080

Table 6 shows the scores of total scores and various indices of critical thinking disposition among students with parents of different educational levels. As shown in the table, students with fathers and mothers who have a higher education level tend to score higher in all indices of critical thinking disposition, especially those with fathers and mothers who have a bachelor's degree or above. This suggests that parents' education levels have a significant impact on their children's critical thinking disposition. The more educated parents are, the more likely they are to provide good educational resources and opportunities for their children, which can significantly contribute to their children's development of critical thinking habits and abilities.

Table 7. Scores of Total Scores and Various Indices of Critical Thinking Disposition among Students who Have or Haven't Taken "English Speech and Debate" Course

	Total scores	Truth-seeking	Open-mindedness	Analytical ability	Systematic analysis	Self-confidence	Curiosity	Cognitive maturity
No	259.243±32.187	37.699±7.279	36.524±6.864	36.515±5.773	36.252±7.827	37.786±7.459	37.835±9.159	36.524±6.865
Yes	274.732±27.032	40.124±6.951	39.990±4.700	37.247±2.521	37.835±7.822	40.814±6.884	41.320±9.402	37.247±2.921

Table 7 shows total scores and the scores of various indices of critical thinking disposition among students who have or haven't taken the "English Speech and Debate" course offered by the college. At present, students in their third and fourth years have taken this course, while students in their first and second years have not yet studied it. As shown in the table, whether or not students have received systematic training in speech and debate has a significant positive impact on their critical thinking disposition. From the total scores, it can be seen that students in their third and fourth years score higher than those in their first and second years. There are also differences in the scores of each index between the two groups, indicating that the course has some effect on cultivating critical thinking.

5. Study Conclusion and Suggestions

5.1 Study Conclusion

1. Critical thinking disposition of English majors at S University

According to the survey results, the critical thinking disposition of English majors at S University is generally above average, with most students displaying intermediate-level performance. However, all seven indices, including cognitive maturity, truth-seeking, self-confidence, curiosity, open-mindedness, analytical ability, and systematic analysis, show negative tendencies.

2. Differences in critical thinking disposition among different groups of students

This study analyzed differences in critical thinking disposition among students from five perspectives: gender, parental education level, grade, high school type, and whether or not they have taken the “English Speech and Debate” course. Regarding gender, females show slightly stronger critical thinking disposition than males. In terms of parental education level, there is a positive correlation between parental education level and students’ critical thinking disposition, with higher parental education levels resulting in stronger critical thinking disposition. Regarding grade, older students generally exhibit better critical thinking disposition than younger students, with an increasing trend from freshman to senior. In terms of high school type, students from selective high schools exhibit stronger critical thinking disposition than those from non-selective high schools. Regarding the “English Speech and Debate” course, students who have taken the course demonstrate significantly stronger critical thinking ability than those who have not. This is because the course teaches English speech and debate content and techniques and provides extensive training, enabling students to develop critical thinking skills through practice. Additionally, the course is designed to be entertaining, allowing students to enjoy learning and consciously train their critical thinking during speech and debate activities. Through simulated debate activities, students can think about social phenomena and problems from both sides, broaden their knowledge and expand their thinking depth, and reduce the possibility of personal standardization and mechanization. Similarly, in personal speeches, students can fully exercise and enhance their critical thinking through reflection and proof of their own views. Overall, the course can promote critical thinking ability in various indices, including cognitive maturity, systematic ability, analytical ability, and truth-seeking ability.

5.2 Study Suggestions

Firstly, cultivate critical thinking in new courses. Schools could offer courses related to critical thinking and teach students the concept and theory of critical thinking. This would encourage students to engage in critical thinking when paying attention to international current events and social issues, broadly connecting theory to practice and deepening their thinking.

Secondly, introduce teaching settings that cultivate critical thinking in existing courses. Schools can create more scenarios and topics for students to think and discuss critically in existing courses, integrating the development of critical thinking abilities into the learning content of the course.

Additionally, improve the “English Speech and Debate” course: First, increase the proportion of

practical learning. By exercising and practicing, students can better feel the power of critical thinking. Practical experience is the sole criterion for testing the truth of knowledge. After studying theory, students may still have questions and confusion about what they have learned. Only through practical experience and fully utilizing theoretical knowledge can they achieve the goal of developing critical thinking abilities. Second, improve the assessment standards for the “English Speech and Debate” course. Raising the evaluation standards means that students will attach more importance to the course and increase their self-demands. While exercising, they will think critically, achieving the goal of developing critical thinking abilities. Finally, teachers should tailor their teaching methods and measures to the specific situation of students. Since different groups of students have different thinking characteristics, teachers can reduce differences in critical thinking disposition among students by using different teaching methods and measures for students of different levels.

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