

A Survey on the Critical Thinking Ability of English Majors---A Case Study of Jiangxi Science and Technology Normal University

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Abstract. A ubiquitous phenomenon (the absence of critical thinking skills) in English major students has had no exact answer until now. This thesis tries to explore the critical thinking ability of students from different majors in Jiangxi Science and Technology Normal University so as to identify the “absence of critical thinking” in English majors, aiming to provide inspiration for further research. Based on Chinese Version of the Critical Thinking Disposition Inventory, the author collected more than 200 questionnaire papers from four majors, analyzed the data in SPSS 22.0 and derived the conclusion.

Introduction

Critical thinking ability has been considered as one of the most important goals of education all over the world. Many Chinese scholars argue that English majors are deficient in their critical thinking abilities since the late 1990s. However, some scholars hold that English language majors are not inferior to the other majors in critical thinking starting since 2014. Unfortunately, there are few empirical studies conducted to reveal the current situation of English major’s critical thinking abilities in China. The aim of this research is to provide specific answers for Jiangxi Science and Technology Normal University. Therefore, the results of this study are expected to offer theoretical and practical support for the purpose of enhancing academic discipline. This study focuses on a possible problem among English majors and may have an impact on the development of the university. Furthermore, the theme of this study is one of the focuses and goals of current educational reform.

Methodology

Participants of the Survey. The participants in this study consisted of 209 undergraduate students from 4 different majors: English, Chinese, Math and Engineering.

Critical Thinking Disposition Test. Chinese Version of the Critical Thinking Disposition Inventory (CCTDI-CV) was adopted by the researcher as the instrument to measure participants’ critical thinking disposition. The CCTDI-CV includes seven aspects, namely: truth-seeking, open-mindedness, analyticity, systematicity, critical thinking self-confidence, inquisitiveness, and maturity. Each aspect includes 10 questions. The reliability and validity of this test is proven to be acceptable (Tsai, 2003). Based on the priorities of the project and the overall questionnaire, the author selects 35 appropriate items from CCTDI-CV. The datum of Critical Thinking Disposition Inventory collected from the CCTDI will be input and processed in SPSS 22.0.

Results and Discussion

The Overall State of English Major Undergraduates’ Critical Thinking Dispositions. That the numerical value of Cronbach’s alpha is 0.781 indicates that the questionnaire has high credibility, and its internal consistency is high. The main methods provided by SPSS 22 are: Independent sample detection & comparison of matched pairs. Descriptive statistics, including the minimum, maximum, mean, standard deviation, and mode of the scores in both critical thinking skills and

critical thinking disposition can be found in table 1.

Table 1 Descriptive Statistics of Test Results (N=209)

| | Min | Max | Mean | SD |
|----------|-----|-----|--------|-------|
| CCTDI-CV | 91 | 173 | 123.98 | 14.43 |

The critical thinking disposition test paper contains thirty-five-items scored using a 6-point Likert scale, with points ranging from 35 to 210. Four points in each item is considered positive and five indicates a strong tendency. So, testers scoring above 140 points are categorized as having positive critical thinking disposition. With 175 points or above, students are supposed to have a strong tendency towards positive critical thinking. Accordingly, people receiving below 140 points show a negative disposition. As displayed in table 1, the average score of all participants' critical thinking disposition is 123.98. In other words, students' critical thinking disposition is generally negative. The results of our university disagree with the results of Luo Qingxu's study, which conclude that Chinese undergraduates' critical thinking disposition is negative, while they match up with Peng Meici et al.'s study. Four of these studies utilize the CCTDI as a data collecting tool, so the discrepancy may have something to do with the type and the rank of university that hosted each study. What should be highlighted here is that the level of critical thinking disposition for students in our university is deficient as it appears to be slightly below the intermediate level.

Comparison of Critical Thinking Dispositions between Science Major and English Major.

To determine whether students who are lacking critical thinking ability come from the same discipline, and whether English majors are inferior to science students as people had believed, and to discover why those differences exist, it is necessary to make a comparison between the groups of majors. First, group statistics and Independent Sample Tests are combined to show whether any differences exist between them. (See Table 2)

Table 2 Group Statistic Chart and Independent Sample Test

| | Majors | N | Mean | SD | Mean Diff. | t | Sig. |
|-------|---------|----|--------|-------|------------|--------|------|
| CCTDI | Math | 54 | 124.85 | 10.52 | -6.98 | -2.791 | .006 |
| | English | 55 | 117.87 | 15.14 | | | |

As indicated in table 2, the average score for critical thinking disposition in both majors shows a negative result. The mean score of English majors' disposition is 6.98 points lower than that of math students. This is in accordance with Luo Shiguo et al.'s study which states that due to differences in teaching methods and focal points of class contents, arts students are also weaker than math students in critical thinking disposition. Moreover, distinction of critical thinking disposition in the majors can also be found through application of the two-tailed significance method which results in a level of .006.

The information discussed previously in table 4.2 implies that students in general lack critical thinking skills. That is to say, not only English majors, even math students need scholars' attention for training in critical thinking ability.

Table 3 Group Statistic Chart and Independent Sample Test

| | Majors | N | Mean | SD | Mean Diff. | t | Sig. |
|-------|-------------|----|--------|-------|------------|-------|------|
| CCTDI | Engineering | 50 | 131.36 | 15.45 | -13.49 | -4.52 | .967 |
| | English | 55 | 117.87 | 15.14 | | | |

From Table 4.3, it can be found that there is no statistically significant difference on the mean overall scores of critical thinking disposition between sophomores and juniors (Sig. = 0.967>0.05). Between the two majors, Engineering has the higher mean overall score, followed by English. But,

the mean score in both is lower than 140. In short, English majors and juniors must improve their critical thinking dispositions in the process of English learning. The results illustrate that there is no correlation between critical thinking disposition and academic year. The above results are similar to the research of Wen Qiufang (文秋芳等, 2012). Maybe the students' critical thinking dispositions are unstable and change when changing majors. In author's opinion, the present education system needs to take more meaningful measures to improve students' critical thinking dispositions.

Comparison of Critical Thinking Dispositions between Liberal Arts Major and English Major.

Table 4 Group Statistic Chart and Independent Sample Test

| | Majors | N | Mean | SD | Mean Diff. | t | Sig. |
|-------|---------|----|--------|-------|------------|--------|------|
| CCTDI | Chinese | 50 | 122.38 | 13.11 | -4.51 | -1.624 | .108 |
| | English | 55 | 117.87 | 15.14 | | | |

Table 4 displays that there are statistically significant differences between the mean overall scores for critical thinking disposition between English majors and Chinese majors (Sig. = 0.108 > 0.05). In general, Chinese Majors score higher (122.38), but mean scores of both majors are lower than 140, which implies that they generally have a weak understanding of critical thinking disposition. While studying the different courses, the students gain differing knowledge, so different abilities will be developed in class. In general, English undergraduates have weaker inclination towards critical thinking dispositions than undergraduates of Chinese. They ought to grow their abilities of negotiation and speech and train their flexibility and tact in order to improve their critical thinking dispositions.

Conclusion

Direct comparison between pairs of majors in two groups uncovered differences that cause variations in critical thinking ability. Therefore, college education ought to contribute to the development of students' critical thinking ability. From what has been discussed above, it can be concluded that these undergraduates universally fail to pursue improvement of critical thinking ability to remedy this, teachers should encourage students to desire knowledge and be curious about new things. Teachers should also guide students to use more organized and focused manners of reasoning when they deal with such knowledge, in order to improve their problem-solving ability.

The essence of learning not only requires one to acquire knowledge, but also demands that they be able to utilize what they already know to solve problems they will inevitably encounter. So teachers should not only aim for their students to be able to repeat what they teach, but encourage students to create, interpret, and demonstrate. "It is revealed that the full understanding of critical thinking should include many other attributes in both cognitive skills and effective dispositions" (王炜, 2004). Though the critical thinking ability of students in our university is at a moderate level, we should not be satisfied with this but should push forward to improve it. In regard to critical thinking disposition, it seems to have been neglected in the procedure of teaching in most universities. Both students' critical thinking skills as well as critical thinking disposition should be developed at the same time.

For English majors, this could be achieved by integrating PBL (Problem-Based Learning) into all the relevant curricula, with teachers serving as guides and facilitators, while learners are self-directed. That is to say, instructors are expected to possess a high capacity for critical thinking primarily in order to help them apply a teaching approach based on establishing relevant and useful contexts for students to be immersed in.

It is necessary to admit the limitations of this study so that suggestions can be put forward for improvement in future research. In regards to sample size, the number of subjects involved in the present study is relatively small and limited only to students. We suggest that a large scale

investigation be conducted to validate the results and make them widely applicable. Furthermore, as teachers exert great influence on their students, the level of teachers' critical thinking ability should be evaluated in future studies.

The findings of this research indicated the state of students' critical thinking development during their college years. Other possible factors, like intellectual maturation or accumulation of life experience that might contribute to the improvements cannot be assessed. So, if other researchers extend the length of the study, the results would be more dramatic and students' critical thinking skills could be greatly improved.

The reliability and validity of the self-designed measuring tool employed in this study needs further investigation. And it is advisable that more scientific tests and instruments be developed for assessing each different group of subjects. A variety of research methods should be adopted to explore subjects' thinking processes. Additionally, empirical studies on both critical thinking disposition and critical thinking skills are rare. Therefore, future research should focus on training critical thinking through various methods and exploring reasonable teaching modes.

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References

- [1] Black, B. "Critical thinking- a definition and taxonomy for Cambridge Assessment: Supporting validity arguments about critical thinking assessment administered by Cambridge Assessment." (2008) .
- [2] Browne, M. & Keeley, S. *Do college students know how to "think critically" when they graduate?*. ERIC Document Reproduction Service.1988 (4): 298-442.
- [3] Ennis, R. H. *A concept of critical thinking: a proposed basis for research in the teaching and evaluation of critical thinking ability*. Harvard Educational Review. 1962.(1): 128-136.
- [4] Paul R. & Elder L. *Critical Thinking: Learn the Tool the Best Thinkers Use*. New Jersey: Pearson Prentice Hall (2006) .
- [5] Giancarlo C.A. & Facione P.A. *A look across four years at the disposition toward critical thinking among undergraduate students*. The Journal of General Education. 2001.(1): 29-55.
- [6] Lambert. N. *Critical thinking dispositions as an outcome of undergraduate education*. The Journal of General Education. 2007.(1): 17-33.
- [7] Yinger, R. J. *Can we really teach them to think?*. New Directions for Teaching and Learning.1980. (3): 11-31.