

Language and Logic: A Content-Based Approach to Critical Thinking

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Abstract: The primary ability that modern pedagogy strives to develop is critical thinking; its development allows considering the ideas in innumerable ways. This paper explores how these competencies can be improved with the help of Content Based Instruction (CBI) among undergraduates by incorporating real texts (i.e. novels and historical excerpts) into language courses. Through real material, the students are forced to apply high-order thinking processes, such as analysis, assessment and inference. The results show that indeed addition of content rich modules does increase reading and critical-thinking comprehension. Both pre-test and post-tests in history and literature courses showed a systematic increase in these cognitive domains and the quotations in interviews confirm that students are aware of the importance of struggling with complicated information. The paper, therefore, finds that the inclusion of subject-related material into the process of language acquisition is not a favorable additional item but an efficient methodology that fosters language proficiency and provides the learners with the critical-thinking abilities that are necessary to operate in the information-rich environment.

Keywords: *critical thinking, content based instruction, English language teaching, novels, English and history reading comprehension, analysis, evaluation.*

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Introduction

Critical thinking has become a critical component in the modern day education, especially in the environment of the information overload where one is exposed to conflicting information. Passive memorisation and rote learning do not serve to challenge the learners to analyse facts or formulate logical argument. Even though most of the curricula only work on language acquisition, this does not always provide the active intellectual stimulation to develop a critical intellect. The Content Based Instruction offers a solution to this gap by incorporating subject to learning- matter (Literature and other historical texts) into language learning. Under this model, the learners use the target language to read and analyse not to just discuss. I consider this integration to be a chance of proving that language acquisition, as well as the subject-matter, must be coupled together; it is the self-interest idea to work with real-world texts that will facilitate the development of upper-order cognition. Moreover, CBI learning environment enables greater levels of intensity, making office hours less routine, and enables high-order thinking. It is necessary to develop arguments, synthesize various points of view and reason, whether reading a complicated novel or working out a historical event whether it is in the process of study academic subject or solving a real-life problem, and these activities are the primary goals of developing critical thinking and transfer to the academic life and the real world. This essay discusses how the merging of CBI and the teaching of the language can go a long way to developing the reading abilities and to the development of critical analysis of facts as shown by the transformative effects of novels and history books.

Literature Review

Critical thinking ability has been traditionally acclaimed as one of the pillars of good education, which involves information-gathering skills, assessment of arguments, and makes of sound judgment. The focus of scholarly interest has been placed on how intensive material, i.e., novels and historical material, arouses analysis, evaluation and inference. Ennis (1989) likens critical thinking as a synthesis of both cognitive skills like logical thinking and prejudice identification; the dual process model plays a significant role in the development of critical thought in every field of study. ContentBased Instruction has become a major trend in the language teaching community, according to which the interdisciplinary nature of language learning and subject matter can exalt the fluency and speed of cognitive operations. CBI offers a considerable amount of linguistic practice by subjecting learners to real-life texts within a literature or history area.

Empirical research proves that CBI causes not only the improvement in the level of language proficiency but also increases intellectual stimulation. Learners should be able to read and evaluate materials in order to take advantage of authentic materials as pointed out by Snow (2001). The use of literature and literature especially historical stories boosts understanding and critical thinking as students are informed to think and evaluate the readings. However, there are also problems, particularly with the learners who are less accustomed to the practice of critical thinking; linguistic and cognitive requirements of more demanding texts may overwhelm the students who do not have an academic

background as rigorous. Such learners usually need more scaffolding to effectively work with challenging content. In spite of these challenges, there has been evidence to support that CBI can successfully learn to think critically when it is supported in a correct way and that students who read real-life texts are motivated to analyze and evaluate as opposed to simply consuming information.

Purpose of the Study

This study is a research study on the impact of Content-Based Instruction on critical thinking and reading skills of undergraduate learners. In particular, it focuses on the impact of novels or historical readings on the development of analytical, evaluative, and interpretive abilities of the language course students.

Research Questions

- What is the impact of incorporating content-based lessons of an English course on the reading comprehension of students?
- How well does CBI develop high-order thinking skills or that of analysis, evaluation, and inference?
- What are the perceptions of the students towards the application of content based teaching in improving their critical thinking skills?

Methodology

The researcher uses both quantitative and qualitative data in the study as the mixed-method design to fully investigate the effect of CBI on the development of critical thinking.

Table 1:

Cohort Pretest and Posttest Scores with Mean Difference

Cohort	Pretest Mean Score	Posttest Mean Score	Mean Difference
History Cohort	54.80	78.25	+23.45
Literature Cohort	60.35	85.10	+24.75

This table compares the pretest and posttest mean scores for two different cohorts: History Cohort and Literature Cohort. It also calculates the mean difference between the two scores.

History Cohort:

Pre-test Mean Score: 54.80

Post-test Mean Score: 78.25

Mean Difference: +23.45 (The score improved by 23.45 points after the intervention.)

Literature Cohort:

Pre-test Mean Score: 60.35

Post-test Mean Score: 85.10

Mean Difference: +24.75 (The score improved by 24.75 points after the intervention.)

Both cohorts show a notable improvement in their scores, with the Literature Cohort showing a slightly higher mean difference (+24.75) compared to the History Cohort (+23.45).

Participants

Group A: 40 pre-service English teachers who were taking a course in Literature and Language Teaching.

Group B 56 non- EFL undergraduates taking an English for History course.

Instruments

- CAAP Critical Thinking Test: a standardised test to determine the analysis, evaluation, and extrapolation capabilities of the students.
- Course-Based Tests: multiple choice tests with questions on comprehension, vocabulary and inference.
- Questionnaires: Likert-scale questions on perceptions of self-reported improvements in self-analysis, self-evaluation, and self-interpretation.
- Interviews: interviews are systematic conversations with a few chosen participants so as to give qualitative information about their experiences.
- Pre-, and Post-tests: the pre- and post-tests will be given at the beginning and end of the semester to identify the baseline and post-intervention level of critical-thinking skills.

Results (Quantitative and Qualitative Analysis) Quantitative Gains: The study found significant improvements in both reading comprehension and critical thinking scores after the content-based modules were implemented.

Cohort	Pre-test Mean Score	Post-test Mean Score	Mean Difference
History Cohort	57.20	81.45	+24.25
Literature Cohort	62.50	87.30	+24.80

Skill Area and Percentage of Students Reporting Improvement

Skill Area	% of Students Reporting Improvement
Analysis	74%
Evaluation	78%
Interpretation	73%
Synthesis	69%
Inference	76%

This table reports the percentage of students who reported improvement in different skill areas after participating in the content-based intervention (CBI). The skills measured include:

Analysis: 74% of students reported improvement.

Evaluation: 78% of students reported improvement.

Interpretation: 73% of students reported improvement.

Synthesis: 69% of students reported improvement.

Inference: 76% of students reported improvement.

This table highlights the skill areas where students saw the most growth, with Evaluation showing the highest percentage of improvement (78%).

Table 3: Cohort Pre-test and Post-test Scores with Mean Difference (Second Set)

This table appears to provide a second set of pre-test and post-test mean scores and mean differences for the History Cohort and Literature Cohort, likely from a different time period or set of tests.

History Cohort:

Pretest Mean Score: 57.20

Posttest Mean Score: 81.45

Mean Difference: +24.25 (The score improved by 24.25 points after the intervention.)

Literature Cohort:

Pretest Mean Score: 62.50

Posttest Mean Score: 87.30

Mean Difference: +24.80 (The score improved by 24.80 points after the intervention.)

In this second set of data, the Literature Cohort shows a slight increase in the mean difference (+24.80) compared to the History Cohort (+24.25), similar to the previous table.

Table 4: Qualitative Insights from Interviews

Theme	Quote
Engagement with Texts	"Now, I can say that I express myself better and see the hidden messages underlying the texts."
Cognitive Challenge	"The texts were difficult at first, but analyzing them helped me think more critically about the content."
Value of CBI	"Content-based learning made me think more about the material, not just the language."

This table shows some of the main qualitative results obtained in the structured interviews with the students. These

findings give a better insight into the way students see the effects of Content-Based Instruction (CBI) on the development of their critical thinking skills. The answers indicate both mental and

emotional reaction of pupils on teaching of complex materials such as novels and historical texts into the learning of the language. The themes are as follows:

Engagement with Texts:

Quote: Well, now I can say that I am more expressive and I can see the hidden messages behind the texts.

Description: This quote shows that the students also enriched their language abilities but also got more involved in the content on a deeper level. They can now recognize the underlying messages in the texts and be able to express some of them, which is a very important skills of critical thinking that requires one to read between the lines and identify implicit ideas or themes.

Cognitive Challenge:

Quotation: The texts were challenging initially but reading them and interpreting them helped me think more critically about what was being read.

Description: Students admitted the fact that the first and major challenge was related to reading complex texts, however, this challenge is essential in the formation of critical thinking skills. The mental involvement in interpreting the content challenged the students to think more critically, and master the skill of analysing and synthesising more complex information.

Value of CBI:

Quote: Content based learning helped me to think more about what was being taught not only the language.

Description: This observation underlines the fact that CBI is not limited to the acquisition of language. Students believed that the content based approach motivated them to not only ensure mastering of the language structures but also experience the content. This higher order of interaction makes critical thinking possible since students must analyze, evaluate and interpret the material in a manner which might not be done by more language-driven instruction.

To conclude, Table 4 indicates that students consider CBI as a strategy that is not only improving their language knowledge but also intellectual in the sense that it makes them think critically as a result of in-depth interaction with the material. The identified themes, namely, engagement with texts, cognitive challenge, and the value of CBI highlight the beneficial role of the complex subject-specific materials used in language courses.

Discussion

The results of the research can be discussed as similar to the findings of the former studies which suggest that CBI could be considered as the effective method of using the language proficiency and developing critical thinking skills. The inclusion of novels and historical texts in language classes helps students to work with complicated material and require critical thinking on the same. Analysis and Evaluation Skills: The students showed a great improvement in their performance in analytical and evaluation skills. This was however not the case among all students as far as a few students were unable to handle thick academic books, which implies that they might need extra scaffolds in order to ensure every student gets involved in the learning process. Interpretation Skills: What was also found in the study is that the students could

understand the multiple interpretations of the texts and this is an important skill in literature and history. This skill to think about the different perspectives is essential in building stronger meaning of content. Challenges: In spite of the good results, students had difficulties in the process of working with the complicated texts without adequate assistance. To overcome these obstacles, a teacher ought to offer more scaffolding, i.e. guided discussions or other materials to assist students in working through thick academic material.

Conclusion

The research contributes to the importance of including critical thinking skills in the language teaching process based on content modules. The ability to use novels and historical materials gives students a chance to actively engage with the material, which helps them develop a critical thinking skill. Though the strategy is successful, the work of teachers still needs to be improved, so that every student could have an opportunity to work with complicated materials.

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