

Research on the Teaching Model of College English to Cultivate Critical Thinking Ability

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Abstract: This paper takes the cultivation of critical thinking ability as the goal and explores the construction and application of the teaching model of college English based on subject knowledge. By reviewing the literature on the cultivation of critical thinking ability at home and abroad, a teaching model based on subject is proposed, which aims to improve students' English application level by cultivating their critical thinking, analytical ability and problem-solving ability. The article also verifies the model through teaching practice and explores its application effect in college English teaching.

Keywords: College English teaching; Teaching model; Critical thinking ability

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1. Introduction

(1) Research background

In the context of globalization, the status of English as an international language is becoming increasingly important. Traditional college English teaching focuses on basic knowledge such as vocabulary and grammar, and rarely involves the cultivation of students' thinking ability. In recent years, with the deepening of higher education reform, how to integrate the cultivation of critical thinking ability into English teaching has become an urgent problem to be solved.

(2) Research significance

This study combines subject knowledge with critical thinking ability, and explores how to promote students' development in critical thinking, problem-solving ability and other aspects through rich subject content, and improve their language application level. This teaching model is not only of great significance to the cultivation of students' language ability, but also provides theoretical and practical references for the reform and optimization of the current English teaching model.

2. Literature Review

(1) Definition and components of critical thinking ability

1) Definition of critical thinking ability

Critical thinking ability, also commonly known as critical thinking, is the ability of individuals to make wise

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judgments through logical analysis, evaluation and reasoning when facing complex problems. Since the 20th century, the academic community has widely discussed the definition and composition of critical thinking ability. Ennis (1985) believes that critical thinking is a reasonable and reflective way of thinking, and its core purpose is to decide what to believe and what to do. Facione (1990) proposed from the perspective of cognitive psychology that critical thinking includes basic elements such as interpretation, analysis, evaluation, reasoning and self-regulation.

Paul and Elder (2006) further pointed out that critical thinking is not only the analysis and evaluation of information, but also the understanding and application of information. According to their point of view, critical thinking includes standards such as clarity, accuracy, relevance, logic, and extensiveness. Individuals need to improve the quality of their thinking process by consciously applying these standards.

2) Elements of critical thinking

Although scholars have slightly different definitions of critical thinking, most people agree that critical thinking consists of the following basic elements:

Analytical ability: This is the foundation of critical thinking, requiring individuals to be able to disassemble information and identify its internal logical relationships. Paul and Elder (2008) pointed out that analytical ability includes understanding the hierarchical structure of information and clarifying the relationship between premises, evidence and conclusions.

Evaluation ability: This is the judgment of the accuracy and validity of information. Facione (1990) believes that evaluation ability lies in determining whether the information is reliable and making reasonable judgments based on different contexts.

Reasoning ability: Part of critical thinking is to draw new conclusions through reasoning. According to Ennis, reasoning ability requires individuals to be able to reasonably transform premises and assumptions into valid conclusions.

Creative thinking: Critical thinking is not limited to evaluating existing information, but also requires creative generation of new solutions or perspectives.

(2) The relationship between critical thinking and foreign language learning

1) The impact of critical thinking on language learning

The importance of critical thinking ability in foreign language learning has received increasing attention in recent years. Many studies have shown that critical thinking has a positive effect on language learning (Kabilan, 2000). Through the cultivation of critical thinking, students can better understand the cultural and social background behind the language, thereby deepening their understanding of the text.

Paul and Elder (2008) showed that language learning is not just about memorizing vocabulary and grammatical rules, but a dynamic process of understanding and application. In foreign language learning, students need to analyze language phenomena in different cultures, evaluate the application effects of language in different contexts, and be able to make logical inferences. These abilities are inseparable from the support of critical thinking.

2) Critical thinking improves reading and writing skills

The application of critical thinking in foreign language reading and writing teaching has been widely recognized. Yang and Liu (2015) showed that in the process of English reading, students with critical thinking can more effectively identify the main idea of the article, distinguish facts and opinions, and conduct in-depth analysis of the text. Similarly, the cultivation of critical thinking can promote students' writing ability, help students structure their thinking in the writing process, arrange arguments reasonably, and express their opinions clearly.

For example, in writing, students can better determine the argument of the article, evaluate the validity of its

arguments, and form a consistent argument structure through logical reasoning through critical thinking. This process helps students avoid disordered and incoherent thinking and form a well-structured article.

(3) The current situation of critical thinking education in college English teaching

1) The current situation of critical thinking education at home and abroad

In the Western education system, critical thinking has always been an important part of education, especially in higher education, where it is regarded as one of the core skills that students must master (Halpern, 2014). Western college English courses not only focus on the cultivation of language skills, but also take critical thinking as an important teaching goal. Teachers guide students to use critical thinking in classroom discussions and writing by designing challenging questions and tasks.

In contrast, domestic college English teaching has mainly focused on exam-oriented education for a long time, emphasizing the mastery of language knowledge and neglecting the cultivation of critical thinking ability (Zhang, 2015). Although in recent years, with the deepening of education reform, critical thinking has gradually received attention, in actual teaching, there are still problems such as single teaching methods and low student participation.

2) Strategies for cultivating critical thinking in college English courses

In college English teaching, the cultivation of critical thinking can be achieved through the following strategies:

Problem-Based Learning (PBL): This method guides students to think independently, analyze problems, and propose solutions by raising challenging questions. PBL emphasizes student self-learning, and teachers, as guides, help students improve their ability to analyze and solve problems.

Discussion and debate: Discussion and debate are effective ways to cultivate students' critical thinking. Through discussion, students can be exposed to diverse viewpoints, analyze and evaluate different viewpoints, and thus improve their critical thinking ability.

Critical reading: Teachers can guide students to conduct critical analysis of texts in reading teaching. For example, students are required to analyze the author's position, whether the arguments are sufficient, and whether there are logical loopholes.

Writing training: Through writing tasks, students can systematically organize their thoughts, conduct logical reasoning, and express their independent views on problems. The cultivation of critical thinking can not only improve students' language expression ability, but also help them form rigorous thinking habits.

(4) Challenges and solutions to the cultivation of critical thinking ability

1) Challenges in the cultivation of critical thinking ability

Although critical thinking is of great significance in foreign language teaching, its application in college English teaching still faces many challenges. First, the cultivation of critical thinking requires teachers to have high professional qualities and be able to design challenging teaching activities. However, many English teachers in domestic universities have not yet received systematic critical thinking teaching training (Yang, 2017). Secondly, due to the long-term influence of exam-oriented education, students have weak critical thinking ability, which is manifested in the classroom as not daring to express independent opinions and insufficient analytical ability.

2) Teaching suggestions for the cultivation of critical thinking

To solve the above problems, teachers can take the following measures:

Provide systematic critical thinking training: Colleges and universities should provide English teachers with relevant training on critical thinking teaching to help teachers master how to effectively guide students to think critically in class.

Create an open learning environment: Teachers should encourage students to express different opinions in class and create a relaxed and inclusive learning environment to increase students' participation and the frequency of critical thinking.

Establish a reasonable evaluation system: Traditional exam-oriented education often neglects the evaluation of students' thinking ability. Therefore, in college English teaching, a reasonable evaluation system should be established to evaluate students' critical thinking ability and encourage them to use critical thinking in learning.

In summary, the cultivation of critical thinking has important theoretical and practical significance in college English teaching. Through the training of critical thinking ability, students can better analyze language materials, understand cultural background, and improve their language application ability. Although the cultivation of critical thinking in college English teaching currently faces some challenges, reasonable teaching strategies and measures can effectively improve students' critical thinking ability. Future research should further explore how to construct a systematic critical thinking training model in actual teaching and verify its teaching effect.

3. Construction of GBS Teaching Model

Based on learning from and absorbing excellent research results at home and abroad and deeply understanding the current situation of teaching in China, the author has constructed the GBS (Global graph-Blend-Stand) teaching model to establish a long-term training mechanism, create a teaching culture and path for cultivating critical thinking ability, and provide an operational solution for college English teaching practice to achieve the university's gold course standard, that is, the difficulty, depth, breadth, height, intensity, precision and temperature of teaching (Li Mang et al., 2019).

The G in GBS refers to Global Graph, which means "extensive learning", extensive learning and comprehensive understanding of problems; before class, teachers and students jointly build a theme resource library to promote students' selection and processing of learning materials; reconstruct the theme content and establish an interdisciplinary knowledge system; students build a theme-centered global graph (Global Graph) by reading theme literature. Blend means "examine and think carefully", carefully ask, think hard, analyze and discuss various standpoints and viewpoints, examine their arguments and argumentation process. Therefore, in class, we blend the views of all parties through interactive methods such as group discussion and debate, deeply explore the theme, and establish a stand. Stand refers to standpoint, which means "distinguish and practice", analyze and then judge and distinguish, form your own standpoint, sort out the viewpoints, form papers, stand firm, practice faithfully, and finally achieve unity of knowledge and action through speeches, investigations, writing, etc. The training of critical thinking ability runs through the entire English learning process, which is conducive to cultivating students' core critical thinking abilities such as analysis, interpretation, comparison, application, reasoning, and self-regulation, and then developing positive emotional traits. The GBS teaching model is a concrete manifestation of the practice of college English in academic research and the development of people. It integrates language skills, systematic knowledge, correct three views, and critical thinking ability to cultivate innovative talents.

(1) Teaching design case analysis (taking the fourth unit of "New Edition of College Advanced English Comprehensive Course 3" (Li Yinhua, 2017) as an example)

The teaching design of this course is guided by the construction of new liberal arts, with "double learning" (student-centered and learning-centered) as the main body, based on theme content (Theme-based Instruction), and aimed at cultivating students' critical thinking ability; based on POA (Wen Qiufang, 2015) as the design principle, to create a "driving, promoting, and evaluating" circular activity system; language knowledge and skills, interdisciplinary knowledge, critical thinking ability and ideological and political education are organically

integrated to construct a GBS (Global graph-Blend-Stand: Global graph-fusion-stand) teaching model with critical thinking ability as the goal; to build a diverse and dynamic formative evaluation system to promote learning through evaluation.

(2) Leading ideology and implementation strategies

1) Leading ideology: Four-in-one, advanced thinking, and moral cultivation

This course is centered on classroom activities, integrating the four goals of language knowledge and skills, interdisciplinary knowledge, critical thinking ability, and ideological and political education, comprehensively developing students' high-level thinking ability; developing students' positive psychology, and consolidating the core values of socialism.

2) Implementation strategy 1: Reconstruct teaching content, teachers and students jointly build a theme resource library

This course reconstructs the teaching content in the whole domain, with the theme as the center, fully calls on various knowledge, text, audio and video materials, and integrates online and offline resources to fully expand the teaching content; all-media reconstruction makes video, audio, and reading materials complement each other to make up for the one-sidedness of single materials; creates a theme resource library and draws a theme map, which is conducive to students' comprehensive cognition of problems, prepares for classroom discussion and analysis, and provides materials for post-class consolidation and expansion; the whole process is reconstructed, flipping the classroom through online resources before class, bridging through offline step-by-step tasks during class, and post-class feedback promotes students' reflective learning, ensures the depth and breadth of teaching, and realizes the internalization and application of teaching content.

3) Implementation strategy 2: Optimize the circular activity system and form a closed learning loop

This course takes the output-oriented approach (POA) as the design principle and designs classroom activities from the three links of "driving, facilitating, and evaluating". Activities such as questioning and discussion fully mobilize students' inherent needs for learning, drive activities from easy to difficult, from single interaction between teachers and students to multi-party interaction such as group discussion, collaboration, and debate, from pre-class projects to in-class activities, and then to post-class consolidation and improvement tasks, promote the formation of abilities, and use timely feedback and evaluation to consolidate learning content and form a new driving circular activity system.

4) Implementation strategy 3: Construct a diverse and dynamic evaluation system, focusing on learning process evaluation

Combined with the reform direction of the course evaluation model and the characteristics of this course, the N+1+1 diversified and dynamic formative evaluation model is implemented. The evaluation model focuses on comprehensively grasping the students' critical thinking ability, and conducts multi-subject observation and evaluation of students' assumptions, logical analysis, and arguments to promote learning through evaluation.

(3) Teaching process

1) Pre-class tasks - build a theme resource library and draw a theme global graph

Before class, teachers and students jointly collect high-quality resources, build a theme resource library, and upload it to the platform. After the teacher's review and screening, the highest quality materials are left. The resource library content determined in this lesson has three categories: listening, reading, and watching, so that audio, reading, and video materials complement each other and fully mobilize the language learning mechanism.

Students draw a mind map of each piece of information, clarify the thought process, and find the theme. Students also need to establish links between each theme, draw a global map, and understand the overall picture of the theme.

2) In-class tasks - discussion + debate, blending various viewpoints (Blend)

In class, the teacher leads students to blend various viewpoints, clarify the context, and finally form their own views.

3) After-class tasks - consolidate viewpoints and stand firm (Stand)

By assigning various tasks, consolidate viewpoints and stand firm.

4. Experimental effect Analysis of GBS Teaching Model Applied to Teaching Practice

(1) Implementation plan

1) Experimental background and objectives

The GBS (Global graph-Blend-Stand) teaching model aims to cultivate students' critical thinking ability. Through this model, students can:

Before class: accumulate knowledge reserves and grasp the overall perspective by building a subject resource library and drawing a subject global map.

In class: through classroom discussion and debate, integrate multiple viewpoints and cultivate critical thinking.

After class: further strengthen students' independent views on the problem by organizing, summarizing and consolidating personal positions.

The goal of the experiment is to test the effect of GBS teaching mode on improving students' critical thinking and English language application ability by systematically training students' thinking ability.

2) Experimental subjects

The experimental subjects are two classes of sophomores majoring in English at a certain university, with a total of 60 students. One of the classes is set as the experimental group, and the GBS teaching mode is used for teaching; the other class is used as the control group, and the traditional college English teaching mode is adopted.

3) Implementation process

Pre-class tasks: Students in the experimental group complete the construction of the resource library through the online platform to obtain background knowledge related to the class topic. Each student draws a "global graph" based on the data to show the various aspects of the topic and related links.

In-class tasks: In class, students discuss and debate (Blend) under the guidance of teachers, analyze and integrate different viewpoints. Students need to look at problems from multiple perspectives and make critical evaluations.

After-class tasks: Students organize the results of the debate, further establish their personal positions (Stand), and write short essays to show their in-depth understanding and independent insights on the topic.

1.4 Teaching schedule The experimental time is one semester, a total of 16 weeks. The class was held once a week. The teaching content of the experimental group and the control group was the same, but the teaching methods were different.

(2) Data collection

1) Quantitative data

Pre-test and post-test scores: The change in scores of students in the experimental group and the control group before and after the experiment was evaluated through the questionnaire of critical thinking ability test and English reading and writing test. The critical thinking ability test includes logical reasoning, opinion evaluation and problem solving ability. The English test includes reading comprehension, analytical writing and argument expression.

Classroom participation: The number of times students spoke in discussions and debates, the logic and criticality of their opinions were recorded through the classroom observation scale. The data was mainly observed and recorded by teachers and research assistants.

2) Qualitative data

Student interview: Semi-structured interviews were conducted with students in the experimental group to understand students' feelings and views on the GBS model and its effect on improving critical thinking ability.

Student reflection log: Students in the experimental group recorded their classroom learning experience every week, including their understanding of the construction of the global map, their feelings in the classroom discussion, and the process of sorting out their positions after class.

(3) Analysis of teaching effect

1) Quantitative analysis

Through data comparison and analysis, the experimental group has significantly improved in critical thinking ability and English skills tests.

Critical thinking ability test: The experimental group has significantly improved in logical reasoning, clarity of argument structure, and opinion evaluation, especially in solving complex problems and evaluating different positions. The experimental group performed significantly better than the control group.

English skills test: The experimental group has significantly improved in writing. Students can express their personal positions more clearly in writing, and their argumentation ideas are more rigorous; in reading comprehension, students can better analyze the arguments and structure of the article.

Class participation: The number of speeches, depth of opinions and logic of students in the experimental group in classroom discussions and debates are significantly higher than those in the control group. This shows that the GBS model effectively stimulates students' enthusiasm for participation and cultivates their critical thinking ability.

2) Qualitative analysis

Through the analysis of student interviews and reflection logs, it was found that the GBS model has a positive impact on students' thinking ability and learning experience.

The effect of the global graph: Most students reflected that by drawing the global graph, they were able to better understand the overall framework of the topic, grasp the correlation between knowledge, and express their views clearly in the discussion.

The promotion effect of discussion and debate (Blend): Students believe that classroom discussions and debates help them think more deeply about problems, learn how to analyze the same problem from multiple perspectives, and improve their views through communication with classmates.

Feedback on stand consolidation (Stand): Students generally believe that the stand consolidation task after class not only strengthens their understanding of the problem, but also helps them form a firmer and clearer personal stand. In the writing process, students are able to express their views more confidently and use critical thinking in

argumentation.

5. Conclusion

Through a semester of practical application, this experiment successfully verified the effectiveness of the GBS (Global Graph-Blend-Stand) teaching model in cultivating students' critical thinking ability and improving English language skills. The following is a comprehensive analysis and summary of the effects of various aspects after the end of the experiment.

(1) Significant improvement in critical thinking ability

The experimental results show that the GBS model can effectively cultivate students' critical thinking ability through phased teaching tasks, especially in logical analysis, evaluation of opinions and problem solving. The experimental group students' scores in the critical thinking test were significantly better than those in the control group, indicating that this teaching model has made significant progress in promoting students' depth of thinking and critical thinking. Specifically, it is manifested as follows:

Construction of the global graph: Help students systematically sort out information related to the topic and enhance their overall grasp of the knowledge system. Students can clearly show the relevance and logical structure of different opinions by constructing a knowledge graph, so that they can express their opinions more confidently in the discussion.

The driving role of classroom discussion and debate (Blend): The discussion and debate sessions in the classroom not only liven up the classroom atmosphere, but also effectively encourage students to look at problems from multiple perspectives. Through communication and debate with classmates, students constantly adjust and deepen their views in the collision of different opinions, and cultivate their ability to critically evaluate problems.

The effect of the stand arrangement task: The stand arrangement after class not only consolidates what has been learned in class, but also promotes students to reflect on and internalize the content discussed. Students can better integrate the results of classroom discussions in their post-class writing and form their own independent and powerful opinions. This process of reflection and summary helps students further improve their ability of logical reasoning and argumentation.

(2) Enhancement of English language ability

The GBS teaching model not only performs well in cultivating critical thinking ability, but also has a positive impact on students' English language ability, especially reading comprehension and writing ability. Compared with the traditional teaching model, the scores of students in the experimental group in reading and writing tests have improved significantly, which shows that this model can effectively promote students' language application ability. The main reasons are:

Construction of thematic resource library: In the pre-class tasks, students enriched their vocabulary and knowledge reserves by collecting materials related to the topic independently, which made them more relaxed when reading and understanding complex texts. At the same time, the drawing of the global map helps students sort out the logical structure and information level of the article, thereby enhancing the ability to deeply understand reading.

The ability to integrate multiple views: The discussion and debate session requires students not only to understand and express their own views, but also to learn to listen to and evaluate the opinions of others, which helps to improve oral expression and communication skills. By analyzing different opinions, students can construct argument frameworks in a more organized way in writing, ensuring the consistency and rigor of arguments and

evidence.

Application of critical thinking in writing: Students further consolidate their language skills by writing position papers in after-class tasks. Writing these articles not only helps students improve their English writing skills, but also cultivates their habit of using critical thinking to express themselves and argue in the writing process.

(3) Innovation and limitations of teaching model

The innovation of GBS teaching model lies in embedding the cultivation of critical thinking ability into English teaching, combining language learning with critical thinking training. Compared with the traditional teaching method that focuses on knowledge transfer, this model significantly improves students' learning participation and active thinking through task-oriented teaching process. Specific innovations include:

Task-oriented learning design: The links before, during and after class are closely connected, which not only realizes the accumulation of knowledge, but also encourages students to practice what they have learned in discussions and further consolidate their views through writing. This multi-stage, multi-task design avoids the phenomenon of students passively accepting information in traditional classrooms, and encourages them to maintain active thinking during the learning process.

Dual cultivation of critical thinking and language skills: This model not only focuses on improving students' language skills, but also systematically cultivates students' critical thinking ability. This dual goal setting enables students to develop higher-level thinking skills while learning languages and become global citizens with critical thinking.

However, although the GBS model has achieved remarkable results in the experiment, there are still some limitations and challenges:

Difficulty in implementation: The GBS model requires teachers to have high guidance and management capabilities, especially in the discussion and debate sessions, teachers need to be able to flexibly organize and guide students to think deeply, which puts higher demands on teachers' teaching literacy.

High requirements for students' autonomous learning ability: The pre-class tasks of this model (building a thematic resource library and a global map) require students to have strong autonomous learning and information integration capabilities, and some students may find it difficult in the early stages. Therefore, how to provide more support for students with weaker learning abilities is the direction of future improvement.

(4) Enlightenment for future teaching practice

This experiment shows that the GBS model has strong applicability and promotion value in improving students' critical thinking and language abilities. In order to make this model applicable in more educational scenarios, the following points should be considered in future teaching practice:

Teacher training and support: To ensure the effective implementation of the GBS model, teachers need to receive systematic critical thinking teaching training, learn how to guide students to conduct efficient classroom discussions and debates, and promote the simultaneous development of their thinking ability and language expression ability.

Optimization of learning resources: More digital learning resources can be introduced in pre-class tasks to help students collect and organize information efficiently. With the support of digital platforms, students can more conveniently build and share global maps to further improve learning effects.

Further adaptation and promotion of the model: In the future, the GBS model can be applied to the teaching of other disciplines, such as social sciences, natural sciences, etc., to explore its adaptability and effectiveness in different disciplinary contexts. At the same time, studying how to adjust the model to meet the needs of different student groups, such as students with weak learning foundations or students with different English proficiency, is an

important direction for future research.

In summary, the GBS teaching model can significantly improve college students' critical thinking ability and English language skills through its task-oriented structure and thinking ability training strategy. Future teaching practices can further expand and optimize this model so that it can play a greater role in a wider range of educational scenarios.

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