

Research on College English Teaching Based on POA in the Context of Big Data and Oriented at Cultivating Critical Thinking Ability

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ABSTRACT

Critical thinking ability is an important goal put forward for training students in the new era of big data. For this goal, different education experts and scholars have given different corresponding theories and coping strategies. College English teaching often emphasizes on the explanation of English grammar and knowledge points, as well as language output and input, lays particular stress on English knowledge and skills, but neglects the cultivation of students' critical thinking ability. Combined with the advantages of information technology in the era of big data and based on the Production-Oriented Approach and the hierarchical model of critical thinking ability as a reference, this paper expounds the critical thinking elements in the Production-Oriented Approach, citing the actual classroom teaching of "New Horizon College English", discussing the aspects of teaching content, teaching objectives, teaching platform, teaching process, etc. Based on POA theory, this paper sets up the construction of college English classroom oriented to cultivate critical thinking ability, provides some enlightenment for college English reform.

Keywords: POA theory, big data, critical thinking, college English

1. INTRODUCTION

The rapid development of information technology has promoted the advent of the era of big data. Making full use of the information advantages of the era of big data will effectively improve people's job and learning efficiency. How to make use of the informational advantage in the era of big data to effectively improve college students' English reading and writing ability has become an important researching topic in the current English education reform in colleges and universities. The "teacher-centered" traditional English teaching model has been criticized for its passive teaching model, while the constructivist teaching concept and teaching model have attracted more attention in the teaching research of domestic universities. However, the role of teachers in constructivist teaching concept has been weakened, students has become the leading players in learning activities, and the leading role of teachers has been weakened. As students are unfamiliar with new knowledge fields, student-led classroom learning activities fail to reach the required height and depth.

After a long period of exploration in the field of English education in China, foreign language educators represented by Professor Wen Qiufang put forward a "production-oriented approach to effective language output", which is called POA for short. This method puts forward the teaching hypothesis of "output driving -- input facilitating", adheres to the concept of "learning-centered theory" and "integration of learning and application".

Based on the concept of "heuristic education" this method can solve the problem of "separation of learning and application" in current foreign language education and greatly improve students' comprehensive ability of Using English [1]. Domestic English teachers have done some practical and critical thinking research on the application of production-oriented approach in college English teaching. Zhang Lingli conducted empirical research on the effectiveness of output-oriented method in English teaching [2], while Zhang Wenjuan conducted practical research on the application of production-oriented approach in college English writing teaching [3]. Qi Pin conducted an applied teaching research on English audio-visual and oral curriculum based on the production-oriented approach [4]. Liu Xiaoxing conducted a practical research on English production-oriented teaching of reading and writing [5].

In this paper, the authors explore the combination of information technology in the era of big data. Based on production orientation approach, and using the thinking level model theory as reference, this paper expounds the theoretical elements in production oriented approach, gives full play to the "integration of theory and function" of the production-oriented approach, applies more advantages of information technology to English teaching, so as to further enhance students' English ability.

2. THE CURRENT SITUATION OF CRITICAL THINKING TEACHING FOR NON-ENGLISH MAJORS

In college English teaching, we should not only pay attention to the improvement of students' English ability, but also pay attention to the improvement of students' critical thinking ability, so as to cultivate students' qualities and abilities of analyzing problems objectively, making accurate inferences, making innovations and making objective evaluations. As we all know, the World Declaration on Higher Education for the Twenty-first Century (UNESCO, 1998) puts forward that the cultivation of thinking and creativity is the main direction of educational reform in the twenty-first century. Many world-famous universities attach great importance to critical thinking ability and select talents based on critical thinking ability.

The Outline of The National Medium and Long-Term Plan for Education Reform and Development (2010-2020) emphasizes the importance of students' ability of "thinking in learning". The so-called "thinking" not only refers to thinking, but also refers to the combination of thinking and argument.

In the new period, the students' critical thinking quality and ability to improve is one of the important goals of higher education in China, especially under the promotion of the "One Belt One Road" policy, English teaching should focus on how to cultivate students' critical thinking ability, and help students to "tell Chinese stories well" in English, so as to facilitate the construction of the discourse system of expressing Chinese culture to the world. College English teaching often emphasizes on the explanation of English grammar and knowledge points, blindly emphasizes language output and language input and lays particular stress on teaching English knowledge and English skills, but it neglects the cultivation of students' critical thinking ability. This has been studied and discussed by many experts, such as Huang Yuan-shen and Wen Qiufang. The Ministry of Education promulgated "college English syllabus" clearly pointed out: "should create a personalized learning environment, in cultivate their active learning method and thinking method, at the same time, helping them to form effective learning strategies to improve their innovation consciousness, innovation ability, application ability, analysis and problem solving ability, for the students lay a solid foundation for future learning and development.

3. CRITICAL ELEMENTS IN THE HIERARCHY THEORY OF CRITICAL ABILITY AND POA THEORY SYSTEM

3.1. The Hierarchy Theory of Thinking Ability

The Hierarchy Theory of Thinking Ability was proposed by Wen Qiufang in 2009. There are three important

theoretical frameworks of thinking ability, namely the ternary structure of Paul and Elder, The Mitsubishi Structure of Lin Chongde and the two-dimensional structure proposed by the Delphi project team. Based on these three theoretical frameworks, Professor Wen Qiufang proposed the hierarchical theory of critical thinking ability, which holds that critical thinking ability consists of two levels, namely, meta-critical thinking ability and critical thinking ability [6]. The first level is metacognitive ability. It refers to the metacognitive ability and self-regulation ability of learners, that is, the ability to consciously plan, check, adjust and evaluate critical thinking skills. The second level is critical thinking ability, which includes cognitive and emotional elements. This ability can not only enable you to master cognition-related skills and standards, such as analysis, reasoning and evaluation, but also to possess personality traits related to critical quality, such as curiosity, self-confidence, openness, integrity and perseverance.

The hierarchy theory not only emphasizes the metacognitive ability of the thinker, but also extracts the important cognitive skills. In addition, it also integrates the personality traits necessary for critical thinking. The theoretical model is described and classified in detail from the aspects of skills, standards and personality traits. At the same time, it emphasizes the cultivation of metacognitive thinking ability from the perspective of metacognition.

3.2. Critical Elements in the POA Theoretical System

After more than 10 years of development, Production-Oriented Approach (POA) is a new type of teaching theory system, which consists of three parts: teaching philosophy, teaching hypothesis and teaching process. The POA theoretical system integrates all elements of the hierarchical theoretical model of critical thinking ability.

First, the teaching process of POA theory: one is drive; two is to facilitate; three is evaluate. The process subverts the traditional teaching procedure of "input before output", replaces with "output--input--output", aiming to guide students to recognize their own shortcomings through outputting assignment, stimulate interest in learning, encourage students to take the initiative to analyze, reason and evaluate in the process of selective learning, so as to acquire new knowledge and skills. This process requires students to mobilize the subjective initiative and self-regulation ability, can make plans, check the learning progress, and can make corresponding adjustments, to develop the ability of meta-critical thinking.

Second, POA theory advocates the teaching concept of "Holistic education", which believes that education should be comprehensive, not only the improvement of people's intelligence, but also the cultivation and improvement of people's emotion and morality. This coincides with the second level of critical thinking hierarchy theory. In the drive stage of POA, the teacher can stimulate students'

learning motivation and interest in learning through different activities. The facilitating stage of POA is to cultivate the students' learning will and confidence. The evaluating stage of POA is to trigger students' self-evaluation, mutual evaluation and so on. The whole learning process will mobilize the students' thirst for knowledge, cultivate the spirit of open cooperation, enhance self-confidence, perseverance to complete the task. These important emotional elements also happen to be essential for critical thinking. Therefore, POA theory can be integrated with various elements of the hierarchical model of critical thinking ability, which can become the theoretical basis of critical English teaching mode and provide a new direction for English teaching reform.

4. THE CONSTRUCTION OF COLLEGE ENGLISH TEACHING MODEL BASED ON POA TO CULTIVATE CRITICAL THINKING ABILITY

This paper takes the teaching of New Horizon College English as an example, under the guidance of POA theory, adopts the teaching procedure of POA, refers to the hierarchical theoretical model of critical ability, and aims to cultivate critical thinking ability as the guidance, so as to project each teaching steps and try to construct a new classroom teaching mode.

4.1. Teaching Content

The teaching content is based on the new horizon college English textbook. The teacher will design a topic for each unit, this topic should be related to the content of the textbook. The design should be practical, communicative and open, and with the theoretical value, at the same time, teachers should organize to collect related reading or listening material, and hand it out to students in the form of paper or in the form of electronic to cause students to think about.

Teaching objectives

The objectives of College English classroom teaching oriented at cultivating critical thinking ability which includes two parts: One is the improvement of English language ability, which refers to the overall improvement of listening, speaking, reading, writing and translation. Second, it helps to cultivate and improve students' critical thinking ability, improve their meta-critical thinking ability and form good emotions and values. The final comprehensive Level of English should be improved, and the students should give full play to their subjective initiative, and use a series of cognitive skills, such as induction, analysis, evaluation, inference, explanation, self-adjustment, self-supervision, etc., to make purposeful and rational judgments on the internal logic and internal connection of the knowledge they have learned.

4.2. Teaching Platform

With the widespread use of the Internet and smart phones, new media platforms can also become teaching media, which are widely welcomed due to their convenience. For example, QQ groups and WeChat groups, as well as various apps, such as "Himalaya" and "Lychee FM", can facilitate the instant interaction and feedback between teachers and students. In order to make use of the limited hours efficiently in class, teachers can choose the corresponding teaching platform according to their needs, so as to promote the communication and interaction between teachers and students, and boost the development of new teaching mode.

4.3. Teaching Process

The teaching mode based on POA is different from the traditional classroom teaching process, first, Teachers should have a deep understanding of POA teaching theory and change the traditional teaching concept. Instead of just instilling knowledge, they should play a guiding, inspiring and exemplary role. Only in this way can students' critical thinking ability, including cognitive skills and emotional traits, be stimulated through guidance and inspiration.

Second, in the facilitating phase, in order to assist students in autonomous learning, the teacher should show the students the input materials prepared before class, which are intended to stimulate the students' output. That is to say, in addition to the text content and driving materials, the teacher can also give timely extension and supplement of the topic information in class, and these supplementary contents can become critical materials.

Third, the important output form of the whole teaching process is mind mapping. For example, in the driving stage, students can complete the "output" task in the form of mind map, which can be further modified and improved in the facilitating stage. On this basis, students can produce various forms in the evaluation stage. Based on input materials, mind mapping can relate and conclude isolated and scattered arguments, and vividly show the process of analysis and reasoning, which is conducive to the improvement of students' critical thinking ability.

5. PRACTICE OF CULTIVATING CRITICAL THINKING SKILLS IN COLLEGE READING COURSES

5.1. Driving Method

Guided by POA, the author takes the passage "Unit 8 Section A Honesty: Is It Going out of Style" as an example. Firstly, teachers present the communication scenes related to the theme of this unit, guide students to mobilize metacognitive ability, develop critical thinking ability, and stimulate students' interest in learning. This

stage is divided into three steps: First, let students talk about the benefits of being honest; Secondly, students will be required to do situational dialogues in pairs. Two students will be arranged, one think that honesty has been out of style, another think honesty cannot be out of style in any times. The student who favors honesty persuade the student who thinks honesty is outdated to experience the good feelings brought by honesty in life. Through this dialogue, the students may find that they are not so familiar with the benefits of honesty and have little vocabulary, which may lead to their interest in the topic. Thirdly, the teacher will assign the task of writing an essay on the benefits of honesty. Through this driving process, students will find their lack of vocabulary and communicative competence, so as to stimulate their interest in learning and consider how to better complete the output task, which is also a process of developing their critical thinking ability.

In the whole driving process, students will have a preliminary understanding of the theme of this class, and teachers will also give full play to their role in helping students form reasonable and rigorous logic and help students to be able to express and want to express themselves, not only to think critically about ideas, but also to use language critically. This part will mobilize students to prepare for the output task, and consciously plan, select, self-monitor and self-adjust the following study, so as to cultivate their meta-critical ability and learning potential. Meanwhile, it can also promote the teamwork spirit and the formation of critical personality among students. In this part, the students will be mobilized to prepare for the output task, and consciously plan, select, self-monitor and self-adjust the following study. In doing so, will their meta-critical ability and learning potential be cultivated. Meanwhile, it can also promote the teamwork spirit and the formation of critical personality among students.

5.2. Facilitation

Based on the textbook content, appropriate listening, reading and practice materials selected by the teacher as input materials, and drive students to produce. This part is divided into two steps. One is to give students a comprehensive understanding of the benefits of exercise. First of all, the teacher plays the science and education video about sports prepared before class, so that students can understand the benefits of different sports to different people, laying a foundation for the final composition output task. Then, ask the students to find out the answer to the question "Honesty: Is It Going out of Style?" in the passage. The second is to promote language ability. Facilitating stage learning can not only help students refine ideas, but also help them acquire language points, thus laying the foundation for the final output task. Meanwhile, this stage can also train students' cognitive skills: analysis and reasoning, which are required by the hierarchical theory of critical thinking ability.

5.3. Evaluation

Evaluation process runs through the whole class, including teachers' evaluation of students' oral expression and task performance, etc., as well as the evaluation of students' output tasks after class. The composition output task of this unit will be submitted to the "Grading Website" (www.pigai.org) by students after class. With the help of the network, teachers can effectively improve their work efficiency, so as to put forward more reasonable and more relevant opinions for each student. Students need to revise and submit the opinions for a second time after they get the revision suggestions. Finally, they need to copy the second corrected composition into the homework book, and conduct self-evaluation and mutual evaluation within the study group or between study groups. Each group chooses an excellent composition and submits it to the teacher. The teacher guides the students to analyze the viewpoints of others and appreciate the beautiful words and sentences so as to deepen their understanding of the sports theme in this unit. It should be noted that the teacher should guide students to cut into the topic from different perspectives, at the same time pay attention to the diversity of language forms. It should be also noted that the teacher should guide students to think about whether their arguments are sufficient, comprehensive, and whether there is still room for improvement when correcting a classmate's composition. They should also encourage students to think dialectically, so as to improve their critical thinking ability.

6. CONCLUSION

The organic combination of POA theory and the hierarchical theory of critical thinking ability can open up new ideas and methods for the construction of a new type of college English class. This paper discussed college English teaching based on POA in the context of big data and oriented towards the cultivation of critical thinking ability, the main goal is to guide the English classroom and train for the non-English major students' critical thinking ability with POA theory. It analyzed how to form the teaching content, teaching goal, teaching platform and teaching process, which has carried on the classroom practice, expecting to provide some enlightenments for college English reform.

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