A Study on the Influence Mechanism of PBL Teaching Model on Non-English Major Students’ Critical Thinking Ability

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Abstract

PBL teaching mode is a kind of emphasis on students' independent inquiry based learning approach, which is concerned with the problem of inquiry and solution process, focusing on the cultivation of students' ability. The teaching mode is a new teaching mode based on the problem and the students as the main body. The open and distance education students of economics as the research object, using the PBL mode of teaching, the results show that the effect of the teaching mode of PBL is obviously better than the traditional teaching mode is helpful to improve the students' ability of autonomous learning, inquiry learning, acquisition, processing and use of statistical information, and the analysis of the problem, the comprehensive ability to solve problems etc.. The PBL model of critical thinking training includes students' participation in the setting of goals and problems, group discussion cognitive activities and the reflection and evaluation of teachers and students.

Keywords: PBL teaching model, teaching research, professional skills

Introduction

Research shows that the critical thinking ability covers the interpretation, analysis, evaluation, inference, explanation and self-adjustment ability; do not show a yield of authority, not blindly confident trueness, openness, analysis and tenacity. The cultivation of critical thinking ability is not only the basis of information processing ability and autonomous learning ability, but also the precondition of creative thinking.

At present, the college English teaching in our country is in a transitional period, some new features are mainly reflected in the following three aspects. The boundaries between college English and high school English are becoming blurred. The basic English teaching of college is losing. The standardized and unified teaching is developing towards diversified teaching. After the high school English learning, the students have reached a certain level in language knowledge, skills, learning strategies and cultural awareness. In addition, with the popularity of multimedia and network, college students' English learning environment is gradually improving.

The branch of English teaching based on CBI is to combine English learning with subject knowledge, and to improve the language skills. This kind of teaching mode unifies the language form and the subject knowledge, and the purpose of the study is from "learning English" to "learning by using English". Therefore, the teaching content and students must be closely related to the basic professional or academic courses, as a transitional specialized English or bilingual teaching more professional, the purpose is to let students contact and grasp certain
professional academic vocabulary, improve the students' needs in professional learning and research in academic English. Compared with the traditional college English, the teaching ideas and methods are different because of the difference of the content of the course and the purpose of the course. The traditional language point explanation, the induction of the central idea and so on are the basic language teaching, which can improve the students' ability of learning English in the field of critical thinking. Therefore, in the teaching of English, the PBL mode of research teaching is highly respected.

![Problem-based learning](image)

**Figure 1. Problem-based learning.**

**The Proposed Methodology**

**PBL teaching model.** PBL is a teaching strategy. Originated in the middle of the 1960s, a medical school in Canada, McMaster University, is an alternative to the traditional teaching model in order to improve the teaching quality. Since then, PBL has been widely promoted in the fields of engineering, architecture, business, education and social work. So far, the PBL teaching strategy is still not a widely accepted definition, but all researchers agree that PBL is student-centered, provide the real problem situation, let the students to solve the problems in both the independent and cooperative learning environment, construction of knowledge. Nelson proposed a more comprehensive definition: PBL is a kind of teaching strategy, began to put a question to the students, require students to solve a complex disorder, may be encountered in the social reality of the problem in the form of team cooperation.

The problem solving process allows students to actively participate in the analysis of the problem, review the learned knowledge, identify the relevant facts, and build new knowledge on this basis. The student union will collectively decide which issues need to be discussed by the group, and which problems can be carried out by the individual, while designing a solution
to the problem. On the cultivation of critical thinking, almost all of the research shows that the cultivation of critical thinking teaching with the aid of strategy, in order to solve the problem as the core, PBL learning model to deal with various problems through, making learners produce critical thinking and creative thinking, is best known as the container of thinking.

PBL teaching model can promote learning ability. First of all, the interaction as the main characteristics of the PBL teaching mode provides extensive information exchange platform for teachers and students, and between students through strong language ability of learners in class interaction in different forms of meaning negotiation and negotiation of form, it will be helpful for promoting the development of two language acquisition.

The PBL teaching model based on cooperative learning can effectively reduce the anxiety of students and provide a safe and favorable psychological environment for learning foreign languages. Again, in order to solve the problem of PBL based teaching model for students from passive learning state into an active discovery learning mode, so as to enhance the learning interest and motivation, which provides power for two language acquisition. Therefore, the PBL teaching model provides a new platform for the improvement of learners' two language acquisition ability.

PBL emphasizes the students' active inquiry and inquiry learning, the teacher is not the knowledge of the traditional mode of teaching, but the student project manager, guide, mentor, helper, evaluator. Teachers should help students to participate in the study, form a partnership with other students, to complete the project in the form of a group. In the course of the project and after the end of the evaluation of the identity of the teacher to the students of the sex and summative evaluation.

In order to make the new sub department of English teaching have an understanding and adaptation, characteristics and evaluation of teachers' learning English academic PBL at the beginning of the project before the standard made a detailed introduction to the students, let them be prepared to change the roles of teachers and students under the new mode. The students were then randomly grouped according to the unit theme, and the different groups in the same unit were responsible for the different sub items of the unit. The project can be completed by teachers and students.

Figure 2. PBL Teaching form.

Evaluation method. In order to evaluate the teaching effect of PBL comprehensively, the experimental class and the control class took part in the end of the year after the end of the
teaching activities. The content of the examination is consistent with the experimental content, including the objective and subjective questions, in which the objective questions focus on the basic concepts, basic principles and other basic knowledge.

**Critical thinking.** It is necessary to cultivate the critical thinking ability of college students. In the teaching, many teachers have noticed that the students' ability of analysis and judgment is weak, and the speculation and argumentation are lack of depth and breadth. Many students have the ability of memory and understanding, but the ability of analysis, evaluation, reasoning and explanation is relatively lacking. Teachers need to agree with the possibility of critical thinking, and persevere in the teaching process. The university period is an important stage of cognitive development, cognitive mechanism has been mature, during which students enhance critical thinking consciousness, effective training can significantly improve the critical thinking level, knowledge learning, and the cognitive ability.

Students have a certain degree of autonomy in the cultivation of critical thinking goals, problems and activities. Students can explain the critical thinking to improve the self-assessment of the target, according to the actual situation of students, teachers and students to develop training plans and objectives.

The cultivation of critical thinking is reflected in the diversification of training, to give students timely guidance and teaching activities in concept and practice, let students actively participate, allowing it to fully display the speculative results, teachers put forward suggestions, enhance students' confidence in improving critical thinking, guide students to know the effective strategies for the training of critical thinking.

In addition, we can cultivate students' critical thinking by using multimedia technology, a group on the Internet regularly an issue brainstorming discussion, this cooperative discussion helps to ease the tension of students respond immediately, mobilize and play the students' thinking ability. After the discussion, the students organize and analyze the relevant content, processing the written, oral presentations or articles in the class, focusing on the content of critical thinking, improve students' cognitive ability of critical thinking. This diversity of critical thinking training can be different from the different critical thinking skills, fully stimulate students to carry out the self-consciousness of speculative training activities.

**Teaching evaluation.** Whether critical thinking training is effective or not needs to be evaluated. The evaluation methods are divided into two types: activity evaluation and critical thinking. Activities are evaluated in the form of an activity, such as speech, debate, writing, etc.. This kind of evaluation is based on the students' critical thinking. The special test of critical thinking refers to the pre-test and post test of the students with the critical thinking test volume, and compares the test results. At the same time, let the students to evaluate the development of their own critical thinking, the students' subjective self-evaluation as a reference, and the objective results of the test, the evaluation of the training of students' critical thinking. The cultivation and improvement of critical thinking is a gradual process, after a semester of training in order to achieve initial results, therefore, training and evaluation of the time required to have a certain interval of time. Evaluation and reflection two means complement each other. After the evaluation, teachers can guide the students with training effect of reflection, effective thinking training and the reasons, the process of reflection to students' language output activities, ideas and reasons stated in the activity, which make the process clear thinking, and help to cultivate and improve students' meta critical thinking, contributing to future solve problems more effectively.

Cultivating students' critical thinking and effective training can significantly improve students' critical thinking. But the students generally lack the cultivation of critical thinking consciousness, at the same time, the cultivation of critical thinking is different from the
knowledge of memorizing, students' self-training is not necessarily can effectively improve the critical thinking.

Conclusion

PBL teaching evaluation refers to the evaluation of students' learning of PBL, including students' self-evaluation, peer evaluation, teachers' comments and comments. In the teaching evaluation, teachers should be a good manager, coordinator, participants and other roles, to make students aware of their responsibility and role in the group, a good grasp of the evaluation criteria, using multi angle evaluation method. PBL training mode is a concept, including training arrangement, implementation and reflection of the integrity of the process chain, the teaching of cognitive activity is helpful to improve the ability of problem solving and analysis, student evaluation and instruction of cognitive skills, at the same time, the teachers to actively guide and cultivate the students' emotion intention in the activity, is to improve the effective teaching mode of critical thinking. The introduction of critical thinking in the setting of teaching goals and content and teaching activities, leading role and guidance can give full play to students' self-directed ability which results in the students' critical thinking gradually improved.

Reference