

The Establishment of Teaching Mode of PBL in College English Extended Courses in Digital Context*

Yansong Feng

Foreign Language Department
Xuzhou University of Technology
Xuzhou, China 221008

Abstract—With the enhancement of the breadth and depth of China's involvement in the global governance, practical English-speaking talents with high qualities are in great need. The evolvement of the guiding line of college English teaching and the change of college English examination greatly propel the reform of English teaching mode. The application of PBL in college English extended courses conforms to the rule of cognitive development that college students are supposed to have. Students' overall qualities are spirally improved during the achievements of the project themes. Therefore, the application of PBL is an effective way of fostering practical talents.

Keywords—Project-based Learning (PBL); teaching mode; project topic; practical English-speaking talents

I. INTRODUCTION

With the deepening of the reform of the teaching system in colleges and the improvement of the requirements of the Ministry of Education for English teaching in colleges and universities, the reform of college English teaching focusing on cultivating the applied foreign language talents with high-quality language application ability has been implemented in many colleges and universities. In this context, our school follows the reform concept of "student-centered, project-oriented, application-oriented, and ability-based", and implements project-based learning and teaching in the digital environment in the college English Extended Courses. Our school implemented a teaching model reform of project-based learning in the digital context in the College English Extended Courses. It emphasizes the application of learning and the learning by doing to cultivate the comprehensive ability of learners, which fully fits the revolution of the guiding ideology of college English teaching in the new era. This topic will conduct a series of studies on this.

II. THE CONNOTATION OF THE TEACHING MODE OF PROJECT-BASED LEARNING

Project-based Learning (PBL) is a teaching model based

*Fund: This article is part of the "Study on the Effectiveness of Project-based Learning Strategies (PBL) in College English Extended Courses" (No. 2017SJA047) of the 2017 Jiangsu Provincial University Philosophy and Social Science Research Fund (Special Topic) Project.

on "projects". It originated from Dewey's teaching concept, learn by doing. For the so-called "projects", John. W. Thomas believes that it is a complex task based on challenging issues that encourage students to participate in design, problem-solving, decisive, and investigative activities, giving students the opportunity to learn relatively independently over a longer period of time and ultimately produce viable results or reports. [1] At the same time, he also proposed that the "projects" in project-based learning must have the following qualifications: first, at the center of the curriculum rather than at the edge; second, driving students to directly face the concept or principle of the subject center; third, motivating students to conduct constructive investigations; fourth, authenticity. Therefore, the American Bark Institute of Education (BIE) defines project-based learning as "a systematic approach to teaching, which is a process of exploring complex and real-world problems. It is also the process of carefully designing a project, planning and implementing a project task in which students are able to acquire the knowledge and skills they need."

Boss and others believe that in the process of completing the project, students can build their 21st century capabilities from four aspects (4C's): critical thinking, cooperation, communication and creativity, so that they can prepare for their academic, personal and career success and enable them to face the challenges of their lives and the world. [3] Because PBL is an innovative teaching model, the Buck Institute of Education clearly stated on its website that "in the case of project-based learning, teachers can revitalize students' learning." "As a result, students developed deep content knowledge and improved critical thinking, creativity, and communication skills in the context of real and meaningful projects. Project-based learning frees the creative energy of students and teachers." [4]

As far as the application of PBL in language teaching is concerned, Professor Zhang Wenzhong believes that project-based learning emphasizes the communicative and functional attributes of language learning and the combination of language and content learning, in order to prominently cultivate students' language skills. [5] This is the advantage of PBL for language teaching.

III. THE AGE INCENTIVES OF THE REFORM OF TEACHING MODE OF PROJECT-BASED LEARNING

In view of the outstanding problems in the current classroom teaching in colleges and universities, as early as 2010, the "National Medium- and Long-Term Education Reform and Development Plan (2010-2020)" has clearly pointed out that education should "create a good environment for independent thinking, free exploration, and innovation", "to promote the all-round development of students, and to improve their innovative spirit of being brave to explore and the practical ability to solve problems", the purpose of which is to promote the focus of education from the transfer of knowledge to the cultivation of students' comprehensive quality.

As far as English teaching is concerned, the College English Teaching Guide in 2015 also clearly stated that "college English teaching is oriented towards the practical use of English and focuses on cultivating students' practical application skills". Therefore, Professor Yu Weishen specifically pointed out that "according to the "College English Teaching Guide", the choice of teaching mode in schools, whether it is to choose to highlight English for specific purposes, or to adhere to the general teaching objectives of general English, must be based on language application ability." [6]

In addition to changes in teaching guidelines, the author believes that changes in the English proficiency test are also an important incentive for the current reform of college English teaching. The defects of the traditional Band 4 and Band 6 College English exams are gradually revealed, and their authority is shaking. A major advancement in the "Language Use-oriented" "China Standards of English", which was newly promulgated in April 2018, is to change the "test English" with Band 4 and Band 6 College English exams to "use English" with "strong ability", which highlights the "speaking" and "translation" in classroom teaching. This standard will guide the creation of a new era of foreign language teaching reform.

In addition, under the background of the continuous development of the "the Belt and Road" strategy and the continuous deepening of China's participation in global governance, it is an urgent issue for the times to select professionals with global vision who are proficient in foreign languages, familiar with international rules, and proficient in international negotiations. Introduced by the China Language Assessment of Beijing Foreign Studies University, the international talent English test, which focuses on the core literacy of international talents, the "English communication ability", came into being. Undoubtedly, the exam will also greatly influence the changes in the college English teaching model.

IV. COGNITIVE THEORETICAL BASIS OF THE TEACHING MODE OF PROJECT-BASED LEARNING

The reason why PBL can be recognized and applied by more and more scholars is because it is in line with the law of cognitive development that students should have, and it can effectively promote students' learning and ability.

Constructivist learning theory, Cognition-discovery learning theory, self-determinism and second language acquisition theory can provide a good cognitive basis for it.

A. Constructivist Learning Theory

The constructivism theory proposed by Piaget believes that knowledge is not from the subject, nor from the object, but is constructed in the process of interaction between the subject and the object. It is a proactive "doing" process of constructing new knowledge and experiences. In particular, social constructivism studies the process of foreign language acquisition from the perspective of social cognition, which emphasizes the initiative, sociality and situation of learning, and advocates "putting the group before the individual and placing the relationship between the person and the person in the first place; emphasis on social construction of meaning, social scenarios of learning, and emphasis on social interaction, collaboration and activities." [7] That is, learning is essentially a social phenomenon, and true knowledge comes from the interaction between people and the environment. Social interaction can promote people's mastery of knowledge. Constructivist learning theory is fully embodied in project-based learning, that is, "learn by doing", learners complete the authenticity project through cooperation and interaction, and improve their learning ability through continuous reflection.

B. Cognition-discovery Learning Theory

Bruner's Cognition-discovery Learning Theory believes that learning is essentially a process in which learners actively form cognitive structures and link cognitive structures to construct new knowledge. The best way to learn is to learning by discovery. The so-called learning by discovery refers to students' use their own materials or conditions provided by teachers to think independently, and discover knowledge and master the principles and laws. Bruner emphasized that the purpose of teaching is to enable students to study independently and solve problems independently. Therefore, the task of educators is to transform knowledge into a form that adapts to the developing students, and to characterize the order of system development as a model of instructional design, allowing students to learn by discovery. To this end, Bruner proposed that learning by discovery should follow six steps: to propose and clarify issues of interest to students; to enable students to experience some degree of uncertainty about the problem; to provide multiple possible hypotheses for problem solving; to assist students in collecting information for underlying sentences; to organize students to review relevant information, and draw corresponding conclusions; to guide students to use analytical thinking to confirm the conclusion. The implementation process of project-based learning follows the above steps to guide students to make progress in continuous discovery.

C. Self-determination Cognitive Motivation Theory

Motivation refers to the psychological tendency or internal drive that stimulates and sustains the action of the organism and directs the action to a certain goal. Self-

determination is a new cognitive motivation theory proposed by American psychologists Deci and Ryan. It emphasizes the degree of self-determination of human behavior, "The potential of self-determination can lead people to engage in behaviors that are of interest and beneficial to the development of power. This pursuit of self-determination constitutes the intrinsic motivation of human behavior." [8]The theory regards motivation as a continuum from unmotivated, external motivation to internal motivation according to the degree of self-determination, and the social environment can enhance its internal motivation and promote the internalization of external motivation by satisfying the three basic psychological needs of the individual (autonomous needs, ability needs and attribution needs), so that the individual can adhere to an activity for a longer period of time, maintain a positive psychological state, and produce more positive behavioral results. Deci et al. found that students taught by the teachers who support self-learning have stronger internal motivations, are more curious, and prefer to accept challenges and make independent exploration attempts.

Project-based learning is to mobilize the initiative of learners through real and interesting projects, to stimulate their internal learning motivation and promote the internalization of external motivation, to fully mobilize their learning initiative, and to bring the greatest sense of accomplishment to learners through cooperation among members.

D. Second Language Acquisition Theory

Krashen divides the language learning process into two different approaches: "language learning" and "language acquisition". The former is conscious, formal learning, that is, explicit learning; the latter is the unconscious, natural learning of the learner in the real environment, that is, implicit learning. He believes that people who master a language through "acquisition" can communicate more fluently in the language. Studies by Swain et al. have shown that language acquisition cannot rely solely on language input, but should also force learners to perform a large number of pushed outputs. Swain points out that when learners try to output a target language, they trigger a potential cognitive process in second language learning, which can lead to new language knowledge or strengthen existing language knowledge. Similarly, Izumi believes that language output can trigger learners' deeper and more elaborate processing of language forms, allowing learners to build more lasting memories. In addition, learners will use their knowledge to reflect on their language output, thereby deepening their understanding of the connection between form, function and meaning of language. This meta-language activity can promote learners' control and internalization of language knowledge, thus improving the accuracy of their language expression.

It can be seen that the language application, that is, the language output (speaking or writing), is extremely important for the final acquisition of the language. Project-based learning can well avoid the shortcomings of language output in traditional classrooms, and "force" students to

solve practical problems through continuous language output, thus achieving an explicit to implicit upgrade of language learning. In the end, the learner's language application ability will develop in the subtle.

V. PBL TEACHING MODE AND "APPLICATION TALENTS" TRAINING

On the macro level, the reform of college English teaching is carried out from two dimensions: content and form. First of all, from the level of teaching content, many colleges and universities have gradually updated the long-established EGP curriculum to ESP, extended courses, and even EAP courses that are more in line with the needs of the times. College English teaching has been upgraded from the content. Secondly, while reforming the content of teaching, many far-sighted colleges are gradually introducing more efficient teaching models. For example, flipping classroom and project-based learning, these two modes combine advanced teaching content with efficient teaching methods, highlighting students' English application ability and achieving the goal of "applied talents".

Dewey once said, "If we use the method of yesterday to teach today's students, it is equivalent to killing the students' tomorrow." It can be seen how important it is for the teaching model to keep pace with the times. In the digital age where ubiquitous learning has become an inevitable trend, it is particularly important and urgent to change the traditional teaching mode to meet the needs of student development.

Numerous studies have shown that teaching in traditional classrooms is one of the least effective teaching models. For example, the National Training Laboratory in Maine, USA, based on the results of its research pyramid (see "Fig. 1") [9] clearly shows that, from the average learning retention rate after 24 hours, less than 30% are of the traditional teaching method. The teaching method is the least effective, only 5%; the teaching mode with the retention rate above 50% is the student participatory learning mode, such as discussion, practice and instant use of knowledge. At the same time, their survey shows that 50.8% of students like to have more hands-on participatory learning methods, and only 12% of students like teachers to teach. It can be seen that reforming traditional classroom teaching methods is imminent. Based on the project, the project-style learning that emphasizes "learning in doing" and constructing students' 21st century ability is one of the teaching modes that fit the "application talents" training goal in the knowledge economy era.

In view of the advancement and effectiveness of project-based learning, Professor Zhang Wenzhong even put forward the idea of "curriculum projectization": "The curriculum and project are combined into one, and the curriculum objectives, content and evaluation are integrated into the project". [5] Zhang Wenlan et al. even proposed a national curriculum project-based learning model based on the concept of curriculum reconstruction under the network environment. [10] In the United States, David Razer developed an interdisciplinary curriculum design characterized by project learning. [11] These are excellent ideas and practices for achieving the goal of "applied talents".

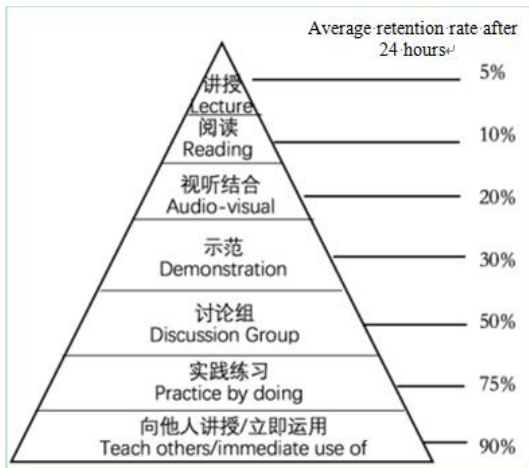


Fig. 1. Learning Pyramid.

As far as the school is concerned, we started the reform of college English teaching in 2015 based on the newly revised application-based undergraduate training program. After several years of exploration and adjustment, it has basically formed the teaching pattern of the first year of junior high school English learning and the second year of learning and development. Our school's extended courses are divided into three major groups of general education, professional English and language skills, a total of 15 courses for all sophomores to choose according to their needs and interests. Classroom instruction in all extended courses emphasizes the "application" of language. The PBL teaching mode is an inevitable choice for the development of applied talents in our school because it can promote students' comprehensive ability and provide students with comprehensive development space.

VI. EXPLORATION OF THE CIRCULAR PBL TEACHING MODE OF THE EXTENDED COURSE OF OUR UNIVERSITY

Our project-based learning is "student-centered, project-led, application-oriented, and ability-based", integrating language skills and project themes. It aims to cultivate students' comprehensive abilities such as language ability, cooperation ability and thinking ability. Therefore, it is fundamentally different from traditional classroom teaching.

A. Guidelines for the Establishment of Project Themes

The most striking feature of the PBL teaching model that differs from the traditional classroom is that it must have a project theme. The appropriateness of the project theme is related to the enthusiasm of student participation and the effectiveness of project-based learning, which is the center of project-based learning. Therefore, its establishment must have a strict set of standards. Because there are many extended courses in our school, and the difference is very big. Therefore, the quality of the project theme is related to the overall situation of college English teaching, and must not be arbitrary. Through continuous thinking and revision in the process of implementing PBL teaching reform, we have established the following four dimensions to establish a unique project theme (see "Fig. 2"). "It must meet the

premise of the project theme, must follow the principles of project operation, must adhere to the purpose of project implementation, and must be based on the source of the project." The unit theme of any extended course should be as close as possible to this framework.

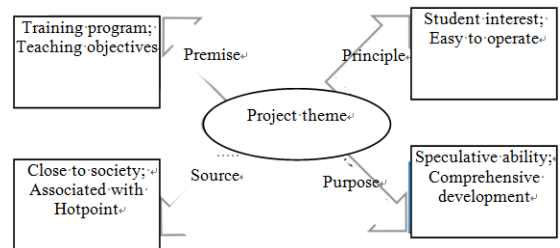


Fig. 2. Establishing criteria for project theme.

First of all, the project theme must conform to the application-oriented talent development program of our school and the specific teaching objectives of the course. This is a prerequisite for evaluating the merits of a project. Secondly, the determination of the project theme must be challenging, and the students are interested and easy to operate, so as to ensure the smooth and optimal effect of the project implementation. Third, all participants must be clear that the purpose of project-based learning is to develop students' language ability, speculative ability, team spirit, innovation ability, and promote students' all-round development, so as to mobilize students' enthusiasm for participating in the project. Finally, the topic of the project should be derived from the social life that the students are familiar with, or the topic of interest, consciously linking the student's learning with the current society, and guiding the students to care for the country and the society.

B. Implementation of the Circular PBL Teaching Mode

Different researchers and teachers have different steps for the implementation process of the PBL teaching model. For example, Zhong Zhixian and others believe that it takes six steps, and Yan Hanbing proposed seven steps. Qin Yaou et al. proposed eight steps. [11] Based on the research and absorption of the existing PBL teaching model, according to the characteristics of college English reform and the needs of the expansion curriculum, we have developed a three-part, 10-link circular PBL teaching model process based on the school's teachings and abilities (see "Fig. 3"). As shown in the figure, the three parts of the complete PBL teaching of the extended curriculum are: the project theme determination process, the project production process and the project work evaluation process. The modern network teaching environment provides three supports for PBL: teaching resource support, network technical support, and member interaction support. In this way, PBL teaching and network learning are organically blended and mutually dependent to form a complete closed loop.

1) *Project theme determination process:* As mentioned earlier, the project theme is the center of PBL teaching activities and the primary prerequisite for implementing PBL teaching. Therefore, the project theme of the establishment unit is related to the success or failure of PBL

teaching. Through a period of exploration and discussion, we identified three links that form the theme of the project. Through the pre-class preparation, the students initially design the project theme of the unit. Through the detailed explanation of the key and difficult knowledge of the classroom teachers, the students self-correct the project theme based on deepening the understanding of the content. Finally, the teacher discusses the operability of the topic together and determines the theme of the unit project based on the established project theme establishment criteria. Depending on the project team's interests, the same unit can identify several different project themes.

2) *Project production process*: After the project theme is established, each project team will enter the production process. To ensure that teams complete and submit qualified works on time, the process can be divided into five segments. First, the division of labor between the group members is clarified to ensure the quality of the project work. Second, an implementation plan should be developed to ensure that the project work can be completed on time. After that, each project team will collect and organize the required materials and data through various channels, including network resources, and use network technology to assist in the production of the works, and maintain mutual communication during the period to achieve organic cooperation. In this process, teachers can support students through the network interactive system, assist in the production of works, track the progress of the project, organize regular discussions, and ultimately produce excellent project results. Due to the diversity of the

extended curriculum, the final results of project-based learning can be presented in various forms, such as video, audio, reports, performances, etc., depending on the project.

3) *Project evaluation process*: The process includes two aspects of the display and evaluation of the work. Project presentations can give students the opportunity to fully express themselves and improve their self-confidence and ability to express themselves. The project evaluation is not only the test of the students' learning results, but also the support of the future teaching design optimization, which makes the project-based learning teaching mode perfect. In the process of demonstrating the results of the project, the teachers and students respectively evaluate the works of other PBL project teams according to the established standards, and give grades or scores to be assessed and counted into the usual scores. Teachers and students jointly summarize and reflect on all aspects of project-based learning, and in the follow-up project implementation to foster strengths and avoid weaknesses, in order to produce better results. All project works are allowed to continue to be revised after being shown and evaluated. Finally, the works will be uploaded to the learning platform for sharing by all students.

In this way, the PBL teaching of the expansion course of our school has formed a virtuous circle based on the network teaching environment. In this process, the teacher's ability to control PBL teaching and the overall quality of students are improved compared with the previous cycle. Students' language skills, collaboration, self-learning and speculative skills will spiral upward in the continuous project cycle.

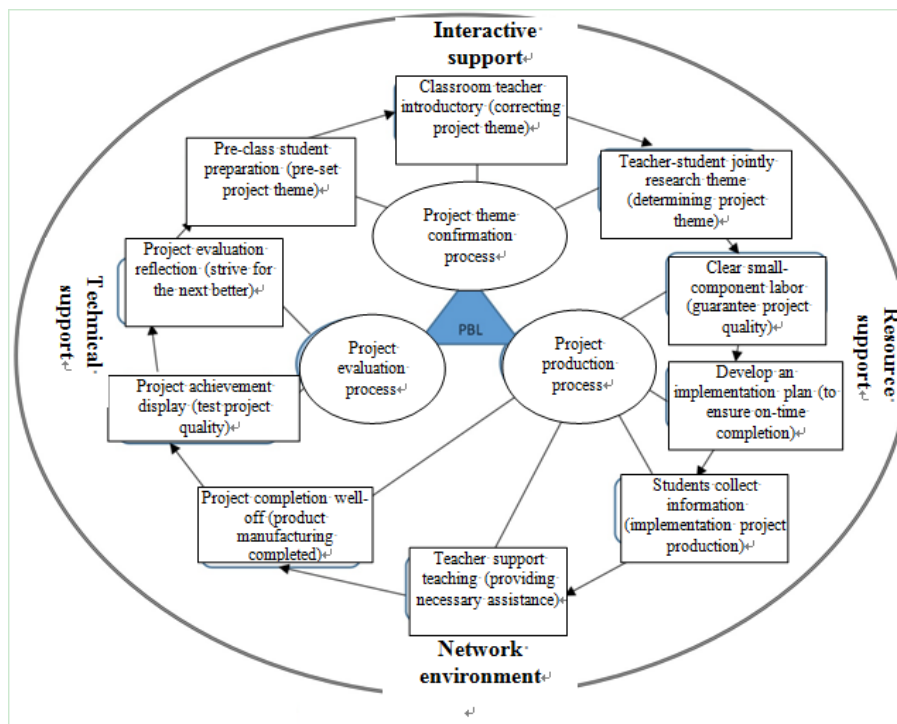


Fig. 3. Flow chart of circular PBL teaching mode.

VII. CONCLUSION

In the context of increasing and deeper participation in global governance, China's demand for innovative foreign language talents is becoming more and more urgent. Faced with this situation, both the national education policy and the examination orientation have emphasized the cultivation of the application of foreign language talents and comprehensive quality. This new change in guiding ideology has led to the reform of large-scale English teaching mode in colleges and universities. "Student-centered, project-led, application-oriented, and ability-based" project-based learning can motivate students to self-discover and construct new ideas and new ideas, and stimulate their internal motivation for active learning. Through the use of English knowledge, students can achieve implicit learning and effective acquisition of language, and achieve the best learning results. In the process of improving language ability, the learner's critical thinking, cooperation ability, communication ability and creativity are also developed. Therefore, relying on the network environment, the implementation of PBL teaching mode reform in the college English extended course can overcome the shortcomings of the traditional classroom, maximize the overall quality of students, and achieve the training goal of "applied talents".

Of course, the application of PBL in the reform of college English teaching is still at the stage of exploration, and the level of understanding and application of PBL by different teachers is not the same. In the application process of PBL, various unexpected problems will occur, such as the inaccuracy of the project theme, the evaluation criteria of the project works are not appropriate, and we expect more relevant research results to enrich and improve the research in this field.

REFERENCES

- [1] John. W. Thomas, Ph.D. A Review of Research on Project-Based Learning [J]. The Autodesk Foundation, 2000.
- [2] Barker Education Institute. Teacher Guide for Project Learning — Middle School Teaching Method in the 21st Century [M]. Beijing: Educational Science Publishing House, 2008: 4. (in Chinese)
- [3] S Boss, J Larmer, J. R. Mergendoller. PBL for 21st century success: Teaching critical thinking, collaboration, communication, and creativity [J]. Buck Institute for Education, 2013.
- [4] [DB/OL].http://www.bie.org/about/why_pbl.html.
- [5] Zhang Wenzhong. Thirty years of research on second language/foreign language teaching based on foreign projects [J]. Foreign Language in China, 2010(2): 68-74. (in Chinese)
- [6] Yu Weishen. Re-understanding of the development of syllabus for the training objectives of college English application ability [J]. Language Policy, 2015(12): 23-36. (in Chinese)
- [7] Chen Jianlin, Integration of Computer Network and Foreign Language Courses [M]. Shanghai: Shanghai Foreign Language Education Press, 2010: 143. (in Chinese)
- [8] Liu Haiyan, Yan Rongshuang, Guo Dejun. New Progress in Cognitive Motivation Theory-Self-Determination Theory [J]. Psychological Science, 2003, 26(6): 1115-1116. (in Chinese)
- [9] [DB/OL].<https://wenku.baidu.com/view/7079826da76e58fafab003f1.html?from=search.html>.
- [10] Zhang Wenlan, Zhang Siqi, Lin Junfen, Wu Qiong, Chen Shulan. Project-based Learning Design and Practice Based on Curriculum

Reconstruction Concept under Network Environment [J]. E-education Research, 2016(2): 38-45. (in Chinese)

- [11] Huang Mingyan, Zhao Jianhua. A Summary of Project Learning Research — Based on the Perspective of Integration with Subject Teaching [J]. Journal of Distance Education. 2014(2): 90-99. (in Chinese)