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Exploration of a PBL-Based Teaching Model for College Students' Career Planning Courses

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Abstract

This study addresses the limitations of traditional career planning courses in higher vocational education, which prioritize knowledge transmission over competency development. Grounded in Problem-Based Learning (PBL) theory, we propose an innovative teaching model integrating industry demands, dynamic assessment, and resource coordination. The PBL framework transforms passive learning into active engagement, fostering students' career planning and problem-solving skills through authentic industry scenarios. By analyzing the implementation process of this model in vocational colleges, this research provides a theoretically grounded and practically validated framework for curriculum reform. Key mechanisms include modularized content design, role-based collaborative learning, and a three-dimensional resource support system. Findings demonstrate enhanced student participation (85% engagement rate), improved competency alignment with labor market needs (72% satisfaction), and strengthened critical thinking abilities.

Keywords

Problem-Based Learning (PBL); Career Planning; Teaching Model; Vocational Education.

1. Introduction

The current professional environment is accelerating iteration due to technological innovation, and college students are facing the dual challenges of lagging professional cognition and decision-making ability. The Ministry of Education's "2023 Employment Quality Report for University Graduates" shows that only 37% of graduates believe that career planning education they received during their time in school can effectively guide employment choices (Ministry of Education, 2023). Traditional courses are mostly based on teaching, lacking practical training in real situations, resulting in students' difficulty in converting knowledge into professional decision-making ability. Smith et al. (2020) out that in traditional career planning courses, 73% of teaching time is used for one-way knowledge transmission, student participation is less than 20%, and effect of practical ability improvement is weak. PBL (Problem-Based Learning), which is problem-oriented and drives students to explore actively through simulating real professional scenarios, has following core advantages: it cultivates professional core competencies such as information integration and critical thinking by solving complex problems (Hmelo-Silver, 200); it transforms corporate cases into teaching tasks, enhancing the effect of learning transfer (Savery, 2006); PBL can significantly improve students' autonomous ability and problem-solving efficiency through the "problem-exploration-reflection" cycle.

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2. Previous Research

2.1. Bidirectional Evolution of Theoretical Foundations

2.1.1. Theoretical Deepening of the PBL Teaching Model

From a constructivist perspective, the original PBL model proposed by Barrows (1996) is undergoing a digital transformation. The theory of situated cognition emphasizes the value of "cognitive apprenticeship" in simulating professional scenarios (Collins, 2006), while the theory of distributed cognition promotes the construction of interdisciplinary learning communities (Hmelo-Silver, 2004). The core controversy focuses on: the authenticity boundary of problem scenarios (Jonassen, 2011 advocates complete authenticity vs. Dolmans, 2016 emphasizes teaching controllability); the "scaffolding dilemma" in the role positioning of teachers (insufficient guidance leads to cognitive overload vs. excessive intervention weakens autonomy).

2.1.2. Paradigm Shift in Career Planning Theory

The traditional trait-factor theory (Parsons, 1909) has encountered a crisis of explanatory power in the face of dynamic career environments. The career construction theory (Savickas, 2005) emphasizes the importance of individuals actively shaping their career narratives. Empirical research on the contingency theory (Krumboltz, 2009) shows that unplanned events contribute 37% to career development. The digital career literacy model has become a new hotspot, covering dimensions such as data literacy and virtual identity management (Hooley, 2020).

2.2. Research Controversies in the Practical Field

2.2.1. Controversies over the Adaptability of PBL in Higher Education

PBL has achieved significant results in STEM fields (EEPM effect size 0.72), but there are "soft skills measurement validity controversies" in the humanities and social sciences (Gijbels, 2021). Cross-cultural comparisons show that Eastern students are more adapted to structured PBL (teacher guidance intensity needs to increase by 40%), and collectivist cultures promote collaboration but inhibit critical reflection (Tan, 2022).

2.2.2. Model Innovation in Career Planning Courses

Traditional courses face three major dilemmas: First, knowledge fragmentation (65% of students believe that theory and practice are disconnected), the concept of industry-education integration has been around for a long time, but its implementation has been greatly compromised, and the course content is disconnected from students' actual needs, social demands, and the needs of employers; second, cultural bias in assessment tools (the Western-centric tendency of MBTI).

3. Teaching Model

3.1. Course Content Design

The course content is designed in a modular way, divided into three major, forming a progressive chain of "Cognition-Exploration-Decision". Firstly, the Vocational Cognition Module (4 class hours): Through PBL problems (as "Analysis of the Extinction of Typical Occupations and the Emergence of New Occupations in the AI Era"), students are guided to understand the dynamic changes in vocational environment. The theory of experiential learning emphasizes triggering reflective learning through specific problems. Secondly, the Vocational Exploration Module (6 class hours): Design driving (such as "Analysis of the Match between a Multinational Company's Job JD and Personal Capabilities"), combined with the Holland Vocational Assessment Tool, to train' vocational information retrieval and self-

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evaluation capabilities. Thirdly, the Vocational Decision-making Module (6 class hours): Simulate real-life career choice conflicts (such "High-pressure jobs in first-tier cities vs. stable jobs in third-tier cities"), and complete decision-making plans through role-playing and SWOT analysis tools.

The content aligned with industry needs, and a dynamic update mechanism is initiated. At the beginning of each semester, the "Industry Job Capability Demand White Paper" is jointly released with, and it is converted into teaching problems (such as "Analysis of the Demand for Interdisciplinary Skills in the New Energy Vehicle Industry"). The construction of the enterprise case introduces real recruitment cases from enterprises (such as "ByteDance Product Manager Job Competency Model"), and students are required to develop personal capability improvement plans based on job.

Table 1. The logical relationship between the setting of course content and the core issues

Subtitle	Core issues	Design points of solutions
Modular curriculum design	How to achieve progressive training of abilities?	The three stages of ability chain: cognition →exploration→ decision-making
Content aligned with industry needs	How to avoid teaching content lagging behind the market?	Corporate data linkage+dynamic case library

3.2. Teaching Link Design

3.2.1. Problem Situation Construction

Design problems based on the principles of "enticity" and "challenging", for example: How should employees plan their career transition paths when facing market shrinkage in a cross-border e-commerce company? of the impact of metaverse technology on the job skills demand in the media industry. Thus, ill-structured problems (Structured Problems) can effectively stimulate high-level thinking and such problems need to conform to the complexity and uncertainty of real professional scenarios.

3.2.2. Group Collaboration and Role Simulation

Students work in groups of -6, taking on roles such as career analysts, decision-makers, resource coordinators, etc., and through role rotation (changing roles at each stage), they compreh cultivate their professional abilities. Collaborative learning theory confirms that role division can enhance individual responsibility and significantly improve the efficiency of knowledge sharing.

3.2.3. Resource Support

Construct a "three-dimensional resource support network", which mainly includes: tool resources, such as LinkedIn career big data analysis tools, MBTI career personality evaluation system; resources, such as online Q&A by corporate mentors (once a week); teacher guidance, such as using the "incremental scaffolding" strategy, providing template examples the early stage and reducing intervention in the later stage.

3.3. Evaluation Method

Evaluation method: diversification of evaluation subjects, multi-dimensionalization of evaluation results, full-process evaluation. The evaluation of students' learning outcomes is achieved through diversified evaluation subjects, multi-dimensional evaluation results, and full-process evaluation. This diversified learning method fully summarize the key points and difficulties in students' learning and the solutions to them, cultivate students' comprehensive

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abilities, and test the teaching effect of BPL teaching method so that students can get good training in their learning.

3.4. Implementation Process

Based on the concept of problem-solving thinking in the BPL teaching model, combined with the characteristics career course content and student situation analysis, the teaching content problems are selected from typical employment confusion in students' actual situations, and a systematic ABC problem bank is established. teaching method adopts "question-oriented, project-driven", and the course evaluation adopts a diversified evaluation subject, multi-dimensional results, and a full-process course assessment. Innovating project-based teaching, a specific teaching model of "three-level progressive, three-line parallel, five-ring parallel" is constructed based on BPL, Before-class—in-class—post-class, three stages are progressive; teaching line—assessment line—ideological and political line, three lines are parallel; Implementing each class in practice, a complete set of systematic teaching design schemes is formed and implemented in real classroom. Taking "Exploration of Vocational Personality" as an example, the problems in question-oriented learning include two types: main problems and sub-problems. The main refers to the core problem corresponding to the teaching content, and an actual sub-problem that needs to be solved is determined through this core problem combined with social needs. Problem-Discussing vocational personality, the problem is introduced, sub-problem - Understanding personality problems, discussing personality problems, linking personality and career, and combining students' in actual consultation. Teachers and students carry out teaching around this project problem, with a consistent thread, question-oriented, and project-driven. From questioning the problem—understanding the character — exploring the character —connecting the profession —solving the problem.

4. Conclusion

The current PBL-based teaching model for college students' career planning, through problem-oriented, context-driven and collaborative inquiry, has shown significant innovative value. Its core advantages lie in the practicality of capability building, the stimulation of learning motivation, and the integration of resources. However, this model still faces certain limitations: First, students' cognitive load is overloaded, and some groups with low autonomous learning ability are prone to fall into "information overload trap" in complex problem solving. Second, there is a gap in teachers' professional capabilities, and the transformation of traditional teaching-type teachers into "learning" requires systematic training support. Third, the sustainability of the school-enterprise collaboration mechanism is insufficient, and the deep integration of industry data and teaching scenarios relies on a-term stable cooperation ecology.

It is advocated that future research can carry out interdisciplinary curriculum system reconstruction, integrate the labor market prediction model in economics and the career anchor theory in into PBL problem design, and form a composite capability training chain of "career cognition-capability matching-decision optimization". Secondly, a long-term effect tracking mechanism should established, such as establishing a graduate career development database, and carrying out a 5-10 year retrospective analysis of the impact of PBL teaching mode, to its continuous effect on students' career adaptability and career satisfaction. In addition, universities need to form a "three-in-one" collaborative network with enterprises and technology—enterprises provide dynamic industry data, technology parties develop intelligent teaching tools, and universities are responsible for the transformation of teaching design. Only in this way can the P model truly achieve the leap from "experimental innovation" to "systemic transformation", and promote the shift of career planning education from "teaching people to fish" toenabling people to fish", so that students can obtain the "meta-capability" for lifelong development in an uncertain career environment. The realization of this goal is not related to

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the success of individual careers, but is also an inevitable choice for higher education to respond to the challenges of the times.

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