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Optimization of Problem Chain Teaching Design for Ideological and Political Theory Courses in Colleges and Universities Based on Advanced Thinking

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Abstract: The problem chain teaching mode of values education based on advanced thinking means that in the values education in colleges and universities, teachers design the teaching content into a sequence of problems from easy to difficult, with detailed and weak points, primary and secondary ones, under the guidance of problem logic according to students' cognitive development level and the logical structure of disciplinary knowledge. Each problem increases the difficulty and depth on the basis of the previous one, promoting the advanced thinking of students and realizing high-quality classroom teaching. The problem chain teaching of values education based on thinking progression takes the problem logic as the guidance according to the students' thinking level hierarchy, and realizes the development goal in the continuous questioning. It is the inherent requirement to promote the innovation of problem-based teaching in values education, and also the core strategy to cultivate college students' high-level thinking ability. To realize the advanced thinking in values education teaching, three points should be paid attention to: first, the spiral rise points to the core teaching goal; second, the step-by-step progress pays attention to giving play to the students' subjectivity; third, the continuous development pays attention to the application of knowledge production.

Keywords: Advanced Thinking; Principle; Problem Chain; Teaching Design

1. Introduction

In ancient times, Confucius said, "Learning without thinking leads to confusion; thinking without learning is perilous.[1]" Aristotle believed that "thinking begins with doubt and wonder.[2]" Scholars at home and abroad are all emphasizing the close relationship between thinking and learning, as well as the important role of thinking in problem-solving, affirming that problems are the carrier for the generation and development of thinking. College students in the new era think about problems with more autonomy, enhanced critical thinking, active thinking imagination, and rapid thinking transformation. At present, in ideological and political course teaching, if the teaching mode still dominated by knowledge learning of "lecturing, memorizing and testing" is adopted., it will greatly restrict the teaching effect. How to turn "learning because I am required to" into "learning because I want to" is the core problem that needs to be solved in ideological and political course teaching. The problem chain teaching design based on thinking progression has important significance in the exploration of current ideological and political course teaching practice.

2. Overview of Advanced Thinking

For the concept of "advanced thinking", we can understand it by combining the two concepts of "thinking" and "level". "Thinking" is a unique spiritual activity of human beings, and it is the process of human perception, understanding, reasoning, and creation. "Level" means level or step. Thinking is a developmental process. From infancy to adulthood, human thinking ability will gradually develop and mature. The level of thinking will also vary depending on individual reserves, accumulation of experience, and so on. Thinking can be divided into three levels according to the level: low-level thinking, middle-level thinking, and high-level thinking. In terms of knowledge learning, low-level thinking focuses on understanding shallow knowledge. Middle-level thinking focuses on in-depth

cognition of the knowledge background. High-level thinking focuses on excavating the value of knowledge. Advanced thinking should continuously improve and develop in terms of thinking ability, thinking mode, and thinking quality in terms of content [3]. From the perspective of thinking ability, with the improvement of thinking ability, individuals can achieve the development of higher-level abilities such as analysis, synthesis, evaluation, and creation step by step from simple memory and understanding. For example, students can initially remember some people and events in learning. With advanced thinking, they can analyze the causes of events, evaluate people and events, and finally be able to creatively put forward new perspectives. From the perspective of thinking mode, advanced thinking changes from a single, linear thinking mode to a multiple and three-dimensional thinking mode. Individuals can gradually learn to use multiple methods and consider problems more comprehensively and deeply. From the perspective of thinking quality, with continuous advanced thinking, concepts are clearer and judgments are more accurate in the thinking process. One can see the essence through phenomena, adjust thinking directions and methods according to different situations, and generate novel and unique ideas and solutions. In short, advanced thinking is a continuous and dynamic process. Humans can cultivate and improve thinking ability through some methods and exercises to promote advanced thinking.

Thinking plays an important role in human cognition, problem-solving, creation, and learning. In his work "How We Think", Dewey mentioned that the occurrence of thinking is in the process of "reflection - problem generation - inquiry and criticism - problem-solving" [4]. Obviously, problems originate from thinking and are also an important carrier for thinking cultivation. Problem-consciousness teaching can encourage students to ask questions, analyze, and solve problems, and help cultivate students' critical thinking, creative thinking, and logical thinking abilities. The advancement of students' thinking ability can improve their cognitive level, prompt them to continuously break through their original cognitive limitations, understand the essence, laws, and internal connections of things more deeply, and thus enrich their knowledge system. In current education and teaching, advanced thinking has extensive and important applications. For example, in curriculum design, construct hierarchical teaching contents and set up challenging problem sequences. In terms of teaching methods, heuristic teaching, group cooperative learning, project-based learning and other methods are all important ways to achieve thinking improvement. In terms of teaching evaluation, adopt diversified evaluation, formative evaluation, etc. to comprehensively evaluate students' thinking development level. The problem chain teaching mode of principle courses based on advanced thinking is that in the "Basic Principles." course in colleges and universities, teachers design the teaching content into a problem sequence from easy to difficult according to the logical structure of students' cognitive development level and subject knowledge, guided by problem logic, with details and weaknesses, priorities and secondary aspects. Each problem increases the difficulty and depth on the basis of the previous problem to promote students' advanced thinking and achieve high-quality classroom teaching.

3. The Value of Advanced Thinking in the Problem Chain Teaching of Ideological and Political Courses

The logical thinking structure of college students has gradually progressed from a single point to a stage of multiple points, connections, and expansion. Establishing a thinking structure related to problems in ideological and political courses is not only an inherent requirement for promoting the innovation of problem-based teaching in ideological and political courses but also of great value for cultivating college students' high-level thinking abilities.

3.1 It is an Inherent Requirement for Promoting the Innovation of Problem-Based Teaching in Ideological and Political Courses

At present, problem-based teaching is widely used in ideological and political course teaching and has achieved considerable results. However, there is also a phenomenon that problem design is inefficient. For

example, high-frequency meaningless questions leave students without sufficient time to think, and key and difficult points are not prominent. The problem design lacks a three-dimensional sense, and the correlation between sub-questions is not strong, making it difficult for students' thinking to diverge. Some abstract principle questions fail to be close to students' reality. There is insufficient design of open-ended questions, and students are confined to looking up answers in textbooks and are unwilling to participate in thinking too much. These deficiencies in problem chain teaching all highlight a common problem, that is, the lack of hierarchy in classroom problem design. In fact, the hierarchy of problems is closely related to the development of students' thinking. Without problem hierarchy, it is difficult for thinking to advance, and it is also difficult to increase students' participation in the classroom. Setting up special topics based on the problem chain of advanced thinking can conduct correlation analysis on the context of textbook knowledge and form a first-level problem chain. The subdivision of special topic problem chains forms a second-level problem chain. The problem chains are advanced layer by layer to form third-level and fourth-level problem chains. In this way, the teaching process is transformed from a "knowledge clue" to a "problem clue", which can effectively increase students' sense of identity and interest in course teaching and improve the effectiveness of course teaching [5].

3.2 It Is the Core Strategy for Cultivating College Students' High-Level Thinking Abilities

Students first master shallow knowledge and then deep knowledge. Shallow knowledge mainly involves cognitive understanding of things and mastery of skills. Deep knowledge lies in analysis and judgment, reflection and summary, and innovative application. High-level thinking is not achieved overnight. It is formed in the process of students' exploration, reflection, and reconstruction of knowledge on the basis of their existing knowledge framework, learning methods, and literacy levels. In other words, high-level thinking ability is a conscious and purposeful way of thinking implemented in a certain context, based on the mastery of shallow knowledge and the transfer of skills [6]. In the process of advanced thinking, students gradually master thinking methods and strategies at different levels, such as induction and deduction, analysis and synthesis, comparison and classification. These methods and strategies can be transferred to other disciplines and life situations, improving students' autonomous learning ability and problem-solving ability. The problem chain design of principle courses based on advanced thinking fully recognizes that the students' thinking level is a process of spiraling up from low-level forms to high-level thinking forms. It focuses on the improvement of knowledge, the construction of learning, and the process of student development. In classroom teaching, according to the problem levels designed by teachers, students perceive information materials in teaching. Using existing knowledge, they first carry out memory, understanding, and application, then move on to abstraction and generalization, form concepts, make inferences and judgments, and finally apply to high-level thinking such as critical thinking and creative thinking. In this way, theoretical propositions are transformed into learning problems, building "scaffolding" for students' advanced thinking and promoting the cultivation of students' high-level thinking abilities.

4. Optimization Exploration of Ideological and Political Course Problem Chain Teaching Design Pointing to Thinking Progression

The optimization of ideological and political course problem chain teaching based on thinking progression means optimizing problems in ideological and political course teaching to make problems open-ended and generative, highlighting teaching key and difficult points more, and having both "fish" and "fishing skills". Next, taking the content of "Value Law" in Chapter Four of the political economy in the principle course in teaching practice as an example, this paper explores how to achieve thinking progression optimization from aspects such as teaching objectives, teaching content, and teaching organization, in order to provide reference and guidance for relevant teaching practices in the future.

4.1 Spirally Ascending Core Teaching Objectives

Teaching objectives are the task requirements to be achieved in a class. The core teaching goal of the entire course of Basic Principles is to help students master basic standpoints, viewpoints and methods, cultivate students' ability to analyze and solve problems, and establish correct worldviews, outlooks on life and values. The development of teaching activities should always be designed around the course teaching objectives [7]. The core teaching objectives should focus on the development of students' qualities. In the teaching design of principle courses, the three-dimensional objectives should be quantified, and the form of progressive layers from easy to difficult and from phenomena to essence should be followed to promote the step-by-step improvement of students' thinking. For example, in the teaching of the content of "Value Law", according to the teaching task requirements, the following three teaching objectives can be set:1) Knowledge objective: General objective: basic content of value law, micro and macro functions of value law, limitations of value law. High-level objective: Understand the operation and application of value law. 2) Ability objective: General objective: Enhance data analysis and induction ability through the basic content of value law; strengthen rational cognition of the role of value law through speculative thinking on the "invisible hand" and the "all-pervading light". High-level objective: Independent exploration, teamwork, organization and coordination. 3) Ideological and political objective: General objective: Correctly understand economic phenomena in society, establish awareness of technological innovation, integrity, and market. Correctly understand the necessity and importance of establishing and improving the market economic system in our country, correctly understand the country's economic policies, and strengthen confidence in the path, theory, system, and culture. High-level objective: Connect the relationship between knowledge learning and career development, consciously follow the value law, establish an "altruistic" thinking, adapt to the needs of the market economy, strengthen knowledge and skill learning, be pragmatic and enterprising. All in all, students' cognitive development is a gradual process. The spiral rise pointing to the core teaching goal conforms to students' cognitive laws and can help students gradually master basic principles and methods. By setting teaching content in stages and gradually deepening teaching methods, students can gradually improve their cognitive level and thinking ability at different learning stages.

4.2 Ladder-like Progression Focusing on Giving Play to Students' Subjectivity

The development of thinking does not occur out of thin air but is based on certain training [8]. Students are the main body of teaching activities. If students' learning autonomy and initiative are to be brought into play, problem design must stimulate students' learning motivation, cause emotional resonance, and expose thinking. In the teaching of the content of "Value Law", for example, three links can be designed: "setting up scenarios - task-driven - problem exploration". 1) Setting up scenarios to realize students' autonomous construction of thinking. Teachers set up corresponding scenarios through methods such as pictures and videos to ensure that students' thinking advances from single-thinking to multi-thinking. For example, in the content of "Value Law", according to an economic phenomenon of "speculative economy", a scenario is set up to find the entry point of the classroom theme, trigger students' interest and thinking, and explain the basic content of value law as the key content. 2) Task-driven to realize the deep development of students' thinking. Teachers can design open-ended tasks according to the thinking development process of students, prompt students to establish a problem-solving-oriented thinking mode, and guide students' thinking to develop towards a higher level. For example, when analyzing the limitations of value law, analyze the case "Enhance innovation consciousness and promote transformation and upgrading Why did Nokia decline from being the consecutive champion?" to guide students to think about what Nokia's experience tells us. Analyze the case "In the past, talents flew southeast. Now, talents from the northwest fly southwest." to guide students to think about what factors affect talent flow and how to view talent flow from an economic perspective. Analyze the

case "The profiteering of Putian Department overdraws the trust of China's medical system" to guide students to think about how to view the medical chaos of private hospitals in Putian Department from an economic perspective. 3) Problem exploration to realize in-depth dialogue at different thinking levels. The method of problem exploration can cultivate students' creative thinking ability and enable students to advance from imitation to innovative thinking. Teachers should pay attention to discovering and breaking through key problem nodes, realize knowledge transfer centered on problems, and actively mobilize knowledge and skills. For example, when analyzing the role of value law, teachers conduct academic research and excavation according to classroom content. The form of ownership of means of production in the mode of production of material materials plays a fundamental and decisive role. Ownership, like the "all-pervading light", not only determines people's status in material life but also determines people's status in political and cultural life. The report emphasizes that " encourage, support, and guide the development of the non-public economy.[9]" Based on this, questions can be raised for speculative thinking on the "invisible hand" (free market) and the "all-pervading light" (macro-control). Organize students to actively speak and discuss in groups to break through the difficult content. In conclusion, paying attention to giving play to the students' subjectivity step by step in the classroom can improve students' learning enthusiasm and initiative, cultivate students' comprehensive qualities and abilities, enable students to better master basic principles, and lay a solid foundation for their growth and development.

4.3 Continuously Developing and Focusing on The Production and Application of Knowledge

The fundamental purpose of learning is to meet the needs of people's all-round development [10]. Extending from this core, it meets the needs of social development, industry innovation, and the progress of the times. Therefore, the effectiveness of knowledge is first manifested in that it is the accumulation of relevant experiences for people's growth. Teaching should not only focus on students' perceptual experiences but also pay attention to students' transfer learning ability and the value of spiritual development, and finally guide students to continuously develop according to their ideal selves. For example, the content of the value law includes the content, function, and limitations of the value law. Three questions can be set up according to the problem chain: First, the "question" of the value law: the basic content of the value law; second, the "discrimination" of the value law: the "invisible hand" VS the "all-pervading light"; third, the "thought" of the value law: the shift of thinking from "selfishness" to "altruism". Designed according to the three-layer logical relationship of "knowledge layer - method layer - quality layer", implementing heuristic teaching guided by problems reflects high-level characteristics. In the knowledge layer, by explaining the basic content of the value law and grasping the core connotations of socially necessary labor time and equivalent exchange, students are guided to establish an awareness of efficiency and equality. At the methodological level, through analyzing the functions and limitations of the law of value, students' critical thinking ability is cultivated. They can establish awareness of technological innovation, integrity, and market, strengthen their understanding and identification of the basic economic system, and strengthen their confidence in the path, theory, system, and culture. In the application layer, through thinking about the value law, students are guided to observe social and economic phenomena, reflect on their own growth, and do a good job in career planning. Guide students to study and work practically and stimulate their enterprising spirit. In particular, pay attention to the application of knowledge at the quality level. Taking the case of "Zibo barbecue going viral" as an example, in an era centered on "commodities", people pay attention to the "price" of commodities. In an era centered on "people", considerations should be based on people's needs. Zibo barbecue has given a perfect answer in terms of concept, level, and quality. Through the "altruistic" thinking and creating material incentives, it has achieved the transformation from "traffic" to "retention" and achieved the effect from

"altruism" to "selfishness". Guide students to think about how college students can enhance their own market value in the fierce competition for talents. In the face of the "dilemma" of difficult recruitment and difficult employment, the fundamental measure is to improve the quality of laborers. Guide students to understand that adding value to knowledge and skills and taking the road of value accumulation is the right direction. Currently, the top concerns of job seekers are salary and benefits, stability, etc., while employers value responsibility, stress resistance, skill quality, etc. This has created a "dilemma" in talent supply. To not be eliminated in the fierce market, as college students, in addition to accumulating knowledge and skills, they also need a market thinking of equivalent exchange, that is, thinking about life growth from the perspective of transforming from "what I want" to "what I can give" is the absolute truth. In short, in principle course teaching, methods such as creating problem situations and encouraging independent exploration are used to stimulate the motivation for knowledge production and cultivate the ability to apply knowledge. At the same time, attention is paid to providing continuous development support through personalized guidance for students, expanding learning resources, and timely evaluation and feedback.

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