

Three - Dimensional Indicators Experiment for Innovation Exemplary Teaching of Course IPE

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Abstract: *To nurture innovative literacy, a three-dimensional indicators experiment is presented for innovation exemplary teaching in the context of course-based ideological and political education (IPE) in China. The main points and key arguments are: The "three-dimensional" indicators refer to knowledge and skills, process and methods, and emotional attitudes and values, which are aligned with the teaching objectives revealed by pedagogy. The three-dimensional indicators experiment is urgent and feasible for: Cultivating students' comprehensive qualities in professional courses, including mastering professional knowledge, correct values, and a positive sense of social responsibility. Providing a scientific teaching design for IPE courses, integrating innovative role models and exemplary teaching. Establishing an innovative literacy indicator system to guide the optimization of teaching design, resource construction, and assessment criteria. The experiment design mainly involves: Conducting pre-test and post-test questionnaires, using third-party classroom observation scales, and analyzing the data with SPSS software. Comparing the correlation between the "three-dimensional" teaching with resources of innovation and the "three-dimensional" innovative literacy of students.*

Keywords: Innovation; Exemplary Teaching; Innovative literacy; Indicator system; IPE.

1. INTRODUCTION

The term "Course IPE" means IPE (IPE) in each Course, typically refers to the integration of IPE with professional course teaching in China. It is possible to measure and achieve IPE teaching objectives through experimental research and quantitative indicators. The "three-dimensional" indicators are not the "process dimension, subject dimension, and sample dimension" as perceived by management science[1], but rather an indicator system corresponding to the teaching objectives revealed by pedagogy, which includes three dimensions: knowledge and skills, process and methods, and emotional attitudes and values. Some research has constructed an IPE teaching evaluation index system for nursing courses, including three first-level indicators: knowledge and skills, process and methods, and emotional attitudes and values. Furthermore, through the Analytic Hierarchy Process (AHP), the weights of "knowledge and skills," "process and methods," and "emotional attitudes and values" were determined to be 0.306, 0.352, and 0.342, respectively, with their importance ranked as process and methods, emotional attitudes and values, and knowledge and skills [2]. This "three-dimensional" indicator-guided teaching design is conducive to cultivating students' comprehensive qualities in professional courses. It is not only about mastering professional knowledge but also includes correct values and a positive sense of social responsibility. It can subtly influence students, achieve coordinated education effects, and reflect the importance of the "three-dimensional" indicator experiment for course-based IPE. At the same time, through experimental research, innovation exemplary teaching design indicators are provided, offering political, cultural, and educational reform contexts. This is because the key to a good ideological and political theory class lies in the teacher, and young students will participate in the realization of the "Two Centenaries Goals" throughout the process. Optimizing teaching performance between teachers and students requires scientific teaching design. The "Guiding Outline for the Construction of Course IPE in Institutions of Higher Learning" requires the development of course IPE by exploring ideological and political elements in professional courses; "Several Opinions on Deepening the Reform and Innovation of Ideological and Political Theory Courses in the New Era" requires strengthening the ideological, affinity, and targeted aspects of ideological and political courses, implementing the fundamental task of cultivating people with morality, and the "Resolution of the CPC Central Committee on the Major Achievements and Historical Experience of the Party's Centennial Struggle" requires "promoting the Party's fine traditions". More importantly, innovative role models contain excellent traditional Chinese culture, revolutionary culture, and advanced socialist culture. The exemplary teaching of innovative roles, especially of innovative CPC, can be used to cultivate "new era talents who are trusted by the Party, patriotically dedicated, and capable of shouldering the great mission of national rejuvenation".

2. THE THREE-DIMENSIONAL INDICATORS EXPERIMENT HAS URGENCY AND FEASIBILITY

2.1 The Three-Dimensional Indicators Experiment has Urgency

The "three-dimensional" indicator experiment of innovation exemplary teaching in course IPE is conducive to applying the IPE method of role model education to achieve the pedagogical objectives of "knowledge and ability, process and method, emotional attitude and values," and to build a "three-dimensional" innovative literacy indicator system. This guides the construction of teaching resources and performance assessment, and implements the fundamental task of "cultivating people with morality." Not only can it focus on innovative research on the laws of student growth and the laws of exemplary teaching to optimize teaching design, but it can also explore the ideological and political elements through innovative role models, scientifically seeking the unity of "cultivating people for the Party and nurturing talents for the country" in course-based ideological and political teaching.

The "great IPE" must be well utilized and must be integrated with reality. And the reality of socialist modernization demands that innovation be placed at the core of all endeavors. Therefore, course IPE should focus on innovation exemplary teaching. Innovation exemplary teaching is an education that caters to the needs of "learning," provides innovative resources, and leverages the students' agency to acquire innovative literacy through role models. The existing "hard integration," "lack of standards," and "resource scarcity" in the teaching of course-based ideological and political work urgently require the establishment of an innovative literacy indicator system through educational experiments. This three-dimensional system is intended to guide the optimization of teaching design, resource construction, and assessment criteria. The urgency lies also in the teaching practice, that is whenever innovation is involved, students show a clear curiosity. Moreover, enhancing teachers' literacy and teaching capabilities, and meeting students' innovative learning needs, both require scientific validation of the "three-dimensional" indicators to guide the empowerment of teaching through artificial intelligence.

Additionally, quantitative educational experiments can address the arbitrariness and blindness in teaching management, enhance the scientific nature of the indicator system, and explore the regularity of "course IPE" through teaching performance evaluation. This approach helps to break down disciplinary barriers and educational stage boundaries, supporting the integration of course IPE across primary, secondary, and higher education. It has been confirmed that effective education is accomplished through role models, not by mere verbal preaching. However, exemplary teaching, while in line with the psychological characteristics of young people and the requirements of communication studies, has confronted a weakening of its educational effect[3]. Therefore, logically speaking, the "three-dimensional" indicator experiment of innovation exemplary teaching is not only necessary but also urgent.

2.2 The Three-Dimensional Indicators Experiment has Feasibility

It is revealed that the weakening of the exemplary teaching effect is due to the idealization and abstraction of role models. This requires the exemplary teaching be developed into innovation exemplary teaching. Related research indicates that the innovation exemplary teaching should enhance cultural soft power, strengthening of online public opinion guidance, distinguishing right from wrong. The innovation exemplary teaching is in connotation to the laws of ideological and political work, and the laws of student growth. Therefore, it is important to leverage the educational function of innovative role models, grasp the regularity, and unify the guidance of teaching design through scientific experiment. And, the teaching philosophy of innovation exemplary teaching has been concretized as: to meet the innovative learning needs, improve innovative literacy, and focus on both innovative theory and skills, and cultivate innovative skills. This provides concrete content for the "three-dimensional" indicator experiment of innovation exemplary teaching.

The essence of course IPE is the collaboration of ideological and political teaching supply, with the core being providing value guidance for students. The "three-dimensional" indicator experiment of innovation exemplary teaching has its feasibility in effectively promote the unification of teaching supply and students' demand. Furthermore, educational experiments are an important way to enhance the scientific and practical aspects of IPE in colleges and universities, and empirical research represented by educational experiments and educational measurement is a new trend in the reform of IPE in colleges and universities. "Due to the difficulties often encountered in efforts to randomly assign groups, quasi-experimental research is more frequently used in education." [4] Donald T. Campbell's "Experimental and Quasi-Experimental Designs for Research on Teaching" explains that quasi-experiments do not require the randomness of experiments, successfully applying from

psychology to educational research. This provides convincing reliability for applying quasi-experimental research to examine the "three-dimensional" indicator. Since educational science divides teaching objectives into knowledge and ability, process and method, and emotional attitude and values, which correspond to the "three-dimensional" innovation literacy system. Furthermore, as educational experiments shift from studying causal relationships to seeking statistical correlations, experiments targeting classes are inconvenient for assessing learning performance. Therefore, it is manifested directly that students should be taken as experimental subjects, and conduct correlational quasi-experiments, observing the relative changes in "three-dimensional" innovative literacy before and after the educational experiment.

In summary, the research on integrated IPE that connects primary, secondary, and higher education has formed a trend of "great IPE" that is synergistic with the design of course-based ideological and political teaching and professional courses. Currently, using correlational quasi-experimental research on the "three-dimensional" indicators of innovation exemplary teaching in course IPE is urgent and feasible for exploring teaching laws and enhancing scientific rigor.

3. THE THREE-DIMENSIONAL INDICATORS EXPERIMENT DESIGN

3.1 The Purpose of the Three-Dimensional Indicators Experiment design

To achieve the teaching objectives of building indicator system of the innovative literacy, the purpose is mainly designed to obtain complementary pre-test and post-test data, supplemented by data from other sources. Data from multiple sources that corroborate each other should be used to study the correlation between the "three-dimensional" teaching and resources of innovative role models and the "three-dimensional" innovative literacy of students (whether there is a correlation and the degree of correlation). The main focus is to compare pre-test and post-test data, using quantitative research to clarify the correlation degree of innovative role model "three-dimensional" teaching and the construction of teaching resources on students' innovative knowledge and abilities, processes and methods, and emotional attitudes and values. Based on the degree of correlation, the "three-dimensional" teaching design should be optimized, especially the construction of teaching resources and the assessment of teaching performance. Factors with high correlation should be emphasized, the weight of factors with low correlation should be reduced, and factors with no correlation or negative correlation should be disregarded. Scientifically establish standards or indicator systems for the design of innovative role model teaching, providing a reference for constructing a general teaching model for course-based ideological and political education.

To reveal the main purpose of obtaining pre-test and post-test data, the experiment should have supporting phase objectives: Firstly, prepare the experimental environment and conditions, such as develop third-party classroom observation scales, basic information, and compliance questionnaires, etc. Secondly, in accordance with the requirements of educational experiments, operate the teaching and resources (independent variables), and observe the changes in students' "three-dimensional" innovative literacy (dependent variables). Finally, at the beginning of the semester, conduct a pre-test with basic information and compliance questionnaires. At the end of the semester, use the same set of questionnaires for a post-test, and compare the classroom observation scales and teaching statistics data to determine whether there is a correlation between the dependent and independent variables of the "three-dimensional" and the degree of correlation.

3.2 Overall Framework for the Three-Dimensional Indicators Experiment design

The experimental content is designed as shown in the table below. It involves conducting pre-and post-tests in multiple quasi-experiments to study the correlation between innovative role model "three-dimensional" teaching and resources in course IPE and students' "three-dimensional" innovative literacy. "Pre-and post-tests" refer to the main acquisition of experimental data through pre-test and post-test questionnaires; "multiple quasi-experiments" refer to the use of multiple natural classes, rather than random grouping of a single class, to operate the independent variables for the experiment and observe the changes in the dependent variables. On the one hand, teaching requires students to collaborate and acquire innovative knowledge and skills, processes and methods, emotional attitudes, and values, and to self-organize to complete innovative planning and scoring of work presentations, etc. On the other hand, the experimental measurement design questionnaire requires students to answer, compare pre-and post-test data. And considering "any calculations and statistical analyses completed with SPSS software do not need to explain the algorithms", SPSS is used to analyze the data, manifesting whether the "three-dimensional" innovation exemplary teaching and resource construction are correlated with students'

"three-dimensional" innovative literacy and the degree of correlation, and to corroborate or refute with classroom observation and end-of-semester statistical data.

Besides, the innovative attitudes and innovation management of teachers should be included in classroom observation scales[5]. Integrate the use of pre-and post-test questionnaires, online teaching statistics, and third-party classroom observation scales to collect data. Primarily, individualized measurements are taken through pre-and post-test questionnaires, and measurements are taken through classroom observation scales, and then, SPSS software is used for descriptive statistical analysis (frequency and cross-tabulation), comparison of means analysis, and correlation analysis. Additionally, SPSS "Paired Samples T-Test" is employed to illustrate whether there are significant differences in correlation.

Table 1: The Three-Dimensional Indicators Experiment Design

1.Experimental Conditions	3 natural classes	2 semesters	Pre-test and post-test questionnaires, Third-party classroom observation scales, SPSS statistical software
2.Experimental Steps	Basic information and compliance questionnaire pre-test	Innovation exemplary teaching of "three-dimensional" indicators	Basic information and compliance questionnaire post-test
3.Experimental Data	Pre-test questionnaire data	Data from third-Party classroom observation scales	Post-test questionnaire data, End-of-semester teaching statistics data
4.Data Analysis	SPSS Descriptive statistics, Correlation analysis, Paired samples T-test	Horizontal comparison between 3 natural classes	Longitudinal comparison of subjects before and after the experiment
5.Conclusion Integration	Testing of hypotheses for the experiment	Relative changes in students' "three-dimensional" innovative literacy	Innovation exemplary teaching design, Teaching resource construction

4. CONCLUSION

Innovation exemplary teaching aligns with the psychological characteristics of young students. Currently, leveraging quasi-experimental research on the "three-dimensional" indicators of innovative role model teaching in course IPE is urgent and feasible for exploring teaching laws and enhancing scientific rigor. Before the educational experiment, the experimental measurement design includes basic information questionnaires and compliance questionnaires to verify the authenticity of students' responses. During the educational experiment, students are required to work in groups and collaboratively acquire "three-dimensional" innovative knowledge and skills, processes and methods, and emotional attitudes and values. They self-organize to complete innovative planning and grading of work presentations. After the educational experiment, compare pre-test and post-test data, and use SPSS statistical software to analyze whether the "three-dimensional" teaching and resource construction of innovative role models are correlated with students' "three-dimensional" innovative literacy, and then to clarify the degree of correlation.

ACKNOWLEDGEMENT

This paper is supported by Guangdong Province Higher Education Special Project: Construction and Practice of a Specialization "Curriculum Ideological and Political" Ecosystem in Local Undergraduate Colleges and Universities (2022GXJK360).

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