On the Competency Issues and Countermeasures of Ideological and Political Course Teachers of Chinese universities in the Intelligent Learning Environment

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Abstract—In China, the team of ideological and political theory teachers is the mainstay in implementing the mission of moral education. The exploration of their competence can serve as a strong support for the team-building of teachers. Meanwhile, the development of the smart learning environment poses new requirements for their competence. This study uses a literature induction method to develop a survey questionnaire, investigating the current competence status of ideological and political theory teachers in universities. The results show that the overall competence level of these teachers in smart learning environments is good, but there is room for improvement in their abilities, especially in terms of innovation, platform construction and usage, and smart teaching design. Significant differences in competence exist among teachers with different ages, years of teaching experience, titles, specialties, types of universities, and motivations for choosing their profession. Based on these findings, this paper proposes feasible improvement strategies from both internal construction and external control perspectives.

Keywords—*Intelligent learning environment; Ideological and political theory teachers; Teacher competence*

I. INTRODUCTION

[1]Xi Jinping, President of the People's Republic of China, once said, "The ideological and political theory course is a key course for implementing the fundamental task of cultivating virtue and nurturing talent. The role of the ideological and political theory course is irreplaceable, and the responsibility of the ideological and political theory teacher team is significant." It can be seen that the team of ideological and political theory teachers is a key force in promoting the high-quality construction of ideological and political theory courses and supporting the implementation of the task of cultivating virtue and nurturing talent. Meanwhile, in the intelligent learning environment brought about by educational informatization, ideological and political theory teachers need to integrate and innovate classroom teaching, practical teaching, online teaching, and other methods, promote the combination of traditional education and modern information technology. This also poses new requirements for the competence of ideological and political theory teachers. Therefore, it is necessary to explore the objective status and new factor structure of the competence of ideological and political theory teachers. Based on clarifying the elements of teacher competence in ideological and political theory courses in the intelligent learning environment, it is important to conduct a survey to identify the shortcomings in various aspects of the current competence of ideological and political theory teachers in higher education institutions. This will facilitate the exploration of the improvement path for the competence of ideological and political theory teachers in the intelligent learning environment,

promote the construction of the teacher team, and contribute to the implementation of educational tasks and objectives.

Research has found that studies on competence primarily focus on ideological and political theory teachers in higher education institutions, with a relatively limited number of studies conducted, particularly in the international context. However, there is an increasing trend in recent years. The research content primarily concentrates on qualitative studies aimed at constructing models and systems for the competence of ideological and political theory teachers in higher education institutions, such as the work by Chen Hongyan[1、2]. Zhou Rongjia[3] have constructed models to form different perspectives on the competence framework of ideological and political theory teachers; Wang Wei and Wu Qiyang[4], on the other hand, employed grounded theory to construct a competence framework model for ideological and political theory teachers in higher education institutions, encompassing four primary categories; Zhao Guang et al[5]. utilized theoretical and empirical analysis methods to construct a relatively objective competence model indicator system for the subject of ideological and political education. However, in the era of educational informatization, there is a lack of research on the competence of ideological and political teachers in the context of intelligent learning environments. There are limited studies on factors integration and analysis of the current situation in this area. On the other hand, there is a focus on studying strategies for enhancing competence through the decomposition of the ideological and political theory teacher competence structure. For example, Shao Ximei[6] has proposed a pathway to enhance the competence of ideological and political theory teachers, focusing on cultivating firm ideological and political qualities, solid professional theoretical knowledge, and educational teaching skills. Wang Zhenyu and Cao Aiqin[7] have introduced the research paradigm of teacher development portrait to propose the logic of competence cultivation throughout the "knowledge, understanding, trust, research, and practice" process. However, these strategies for enhancement are mostly qualitative research-oriented. Therefore, there is a need for more empirically supported research to provide a more precise understanding of the competence of ideological and political theory teachers.

Based on the aforementioned, this study employs a literature review method to develop a measurement questionnaire for "competence of ideological and political theory teachers in the context of intelligent learning environments." Subsequently, a questionnaire survey is conducted targeting the teachers in higher education institutions, followed by data analysis. Through this process, the current status of the competence of ideological and political theory teachers in the context of intelligent learning environments is unveiled, and accordingly, practical and feasible improvement strategies are proposed.

II. RESEARCH DESIGN

A. Questionnaire Design

The competence of ideological and political theory teachers in the context of intelligent learning environments is a subordinate concept of faculty competence in higher education. By integrating the prevailing universal and discriminatory perspectives on faculty competence in higher education[8][8], the study defines the competence of ideological and political theory teachers in the context of intelligent learning environments as the competency requirements in terms of knowledge, skills, values, and personal traits proposed by the pathways of intelligent teaching environment and the construction of ideological and political theory courses.

This study comprehensively reviews and integrates the dimensions and elements of ideological and political theory teacher competence mentioned by existing scholar [10]-[13]. On one hand, similar semantic elements were merged and their names were clarified. On the other hand, the requirements of competence in intelligent teaching were incorporated. Ultimately, a 20-item competency scale was developed, encompassing four dimensions: knowledge, skills, attitudes/values, and personal traits. The "skills" dimension reflects the proactive subjectivity of ideological and political theory teachers in updating teaching concepts and innovating teaching practices during the teaching process. This dimension particularly emphasizes the abilities related to intelligent teaching design and classroom management. The "knowledge" dimension refers to the understanding and knowledge accumulation of ideological and political theory teachers in their own profession, as well as their explicit ability to integrate

knowledge into teaching. The "attitudes/values" dimension represents the teaching ideologies and understanding of ideological and political theory teaching held by the teachers. The "personal traits" dimension encompasses the display of positive personal qualities by ideological and political theory teachers in their teaching. This includes elements such as "pursuit of excellence" and "perseverance", consistent with Chen Hongyan[1] in the dimension of personal traits.

In general, this study will design questionnaires based on four aspects: demographic variables, occupational choice motivation, and the aforementioned dimensions of competence structure. This approach aims to investigate the current status of ideological and political theory teacher competence in the context of intelligent learning environments.

Before distributing the questionnaire, the author conducted a pilot study by collecting 100 questionnaires for preliminary assessment. The self-constructed questionnaire was found to have good reliability, with a Cronbach's alpha coefficient of 0.779, exceeding the theoretical requirement of 0.7.

B. Sample Selection and Research Methodology

Data collection was conducted through a designed questionnaire, targeting ideological and political theory teachers in higher education institutions. Two methods were employed for distributing the questionnaire: self-distribution and platform-based distribution. The data collection process lasted for one month, resulting in a total of 198 valid responses. The questionnaire's effective response rate was 77.6%. Analysis of the valid samples revealed that the respondents were predominantly young teachers with certain teaching experience. They were more likely to have exposure to the latest educational technologies, aligning with the research objectives of this study.

In this study, the questionnaire data were processed using SPSS 23.0 statistical software. Descriptive statistics analysis and inferential analyses (independent samples t-test and one-way ANOVA) were primarily employed. Excel was used to create tables and charts for data visualization.

III. COMPETENCE ANALYSIS AND RESULTS OF IDEOLOGICAL AND POLITICAL THEORY TEACHERS IN HIGHER EDUCATION WITHIN INTELLIGENT LEARNING ENVIRONMENTS

A. Overall Level Analysis

Based on Table 1, the average competency score is 4.34. Specifically, the competency score for the ability dimension is 4.29, for the knowledge dimension is 4.33, for the attitude/values dimension is 4.37, and for the personal traits dimension is 4.35. Overall, the competence of ideological and political theory teachers in higher education within intelligent learning environments is at a good and slightly above average level. However, there is room for improvement in the ability dimension compared to the other dimensions.

B. Local Level Analysis

The scores of the specific secondary indicators of the competence levels of the surveyed individuals demonstrate a certain degree of concentration. However, there are instances of uneven distribution and relatively lower scores among some indicators within certain dimensions. Among the secondary indicators, three are in the good and slightly above average level (4.4-4.5), 14 are in the good and moderate level (4.2-4.4), and three are in the good and slightly below average level (4.0-4.2). It is notable that there is a significant disparity in the levels of theoretical-practical integration and innovative abilities within the ability dimension. Furthermore, the platform construction and utilization abilities, as well as the intelligent instructional design abilities, within the same dimension, have relatively lower scores compared to the overall indicators.

TABLE I.   SCORES OF FIRST-LEVEL AND SECOND-LEVEL INDICATORS OF COMPETENCE AMONG IDEOLOGICAL AND POLITICAL THEORY TEACHERS IN HIGHER EDUCATION WITHIN INTELLIGENT LEARNING ENVIRONMENTS

Dimensions	Scores of Dimensions	Factors	Scores of Factors
Ability	4.29	Political Behavior Guidance Ability	4.37
		Platform Construction and Utilization Ability	4.08

		Research Ability	4.26
		Innovation Ability	4.18
		Intelligent Instructional Design Ability	4.19
		Theoretical-Practical Integration Ability	4.53
		Affinity	4.33
		Student Care	4.39
Personal Traits	4.35	Sense of Humor	4.31
		Professional Responsibility	4.41
		Pursuit of Excellence	4.29
		Political Firmness	4.38
		Moral Education and Character Development	4.51
Attitudes and Values	4.37	Political Sensitivity	4.28
		Belief in Marxism	4.36
		Awareness of Intelligent Teaching	4.34
		Knowledge of Marxism and Marxist Theoretical Adaptation in China	4.37
		Humanities Knowledge	4.27
Knowledge	4.33	Practical Knowledge	4.35
		Experiential Knowledge	4.32
Total Competence Score	4.34		

C. Differential Analysis

By conducting classified statistical analysis on different demographic characteristics, the results indicate that there are certain differences in overall competence or scores of first-level indicators among university teachers of different genders, ages, educational backgrounds, years of teaching experience, professional titles, majors, and types of higher education institutions.

1) Gender Differences

An independent samples t-test was conducted to examine the teaching competence of ideological and political theory teachers in higher education based on gender. The results indicated no significant difference between male and female teachers in terms of overall teaching competence scores. However, significant differences were observed in the scores of specific dimensions within the first-level indicators across different genders. Particularly, female teachers achieved higher scores than male teachers in the ability dimension.

2) Age Differences

A one-way ANOVA test was conducted to examine the teaching competence of ideological and political theory teachers in higher education across different age groups. The results revealed a significant difference in overall teaching competence scores among different age groups, indicating an increasing trend in teaching competence scores with age. Regarding specific first-level indicators, for the majority of indicator dimensions, teachers aged 46-55 scored higher in teaching competence compared to those aged 36-45 and below 35. However, in the knowledge dimension, teachers aged 36-45 scored higher in teaching competence than teachers below 35 and those aged 46-55.

3) Educational Background Differences

Through one-way ANOVA test, there was no significant difference in the overall teaching competence scores among ideological and political theory teachers in higher education with different educational backgrounds. However, in the ability dimension of the first-level indicators, teachers with a master's degree displayed significantly higher teaching competence scores compared to those with a bachelor's degree and a doctoral degree. Among the second-level indicators, the difference in

innovation ability was most pronounced, with respective scores for teachers with a master's degree, bachelor's degree, and doctoral degree being 4.321 > 4.141 > 3.857. This indicates that the level of innovation ability does not necessarily correspond directly to the level of educational attainment.

4) Differences in Years of Teaching Experience

A one-way ANOVA test was conducted to examine the teaching competence of ideological and political theory teachers in higher education based on their years of teaching experience. The results revealed a significant difference in the teaching competence scores among teachers with different years of teaching experience. Furthermore, there was a significant positive correlation between the length of teaching experience and teaching competence scores. Teachers with more than 10 years of teaching experience scored significantly higher in teaching competence compared to teachers with 1-5 years and 6-10 years of teaching experience. Within the dimensions of ability and attitude/value, teachers with more than 10 years of teaching experience consistently achieved the highest teaching competence scores. In other words, as teachers accumulated more years of teaching experience, their teaching competence scores also increased, indicating a positive relationship between teaching experience and teaching competence.

5) Differences in Professional Titles

A one-way ANOVA test was conducted to examine the teaching competence of ideological and political theory teachers in higher education based on their professional titles. The results indicated a significant difference in the teaching competence scores among teachers with different professional titles. From the assistant lecturer to associate professor level, teaching competence strengthened as the professional title advanced. However, teachers with a professor title displayed significantly lower teaching competence scores compared to teachers with other professional titles. This may be attributed to the fact that professors in ideological and political theory education need to strike a balance between teaching and research demands. In comparison to teachers with other professional titles, professors have limited time and energy to allocate for teaching activities.

6) Differences in Majors

An independent sample t-test was conducted to examine the teaching competence of ideological and political theory teachers based on their major field of study, specifically Marxist theory and non-Marxist theory. The results revealed a significant difference in the overall teaching competence scores between teachers majoring in Marxist theory and those majoring in non-Marxist theory, with respective scores of 4.365 > 4.158. Furthermore, within each dimension of the first-level indicators, teachers majoring in Marxist theory displayed significantly higher teaching competence scores compared to those majoring in non-Marxist theory. This suggests that ideological and political theory teachers with a major in Marxist theory exhibit superior teaching competence on both the overall level and dimension-specific levels.

7) Differences in Higher Education Institutions

The teachers in the research sample from different universities were categorized into four types based on the institutional classification: "985" universities, "211" universities, "Double First Class" universities, and regular universities. In terms of overall teaching competence scores, the order from highest to lowest was as follows: ideological and political theory teachers from "985" universities, "211" universities, "Double First Class" universities, and regular universities. When examining the performance within each dimension of the first-level indicators, teachers from "985" universities achieved the highest scores. However, teachers from "211" universities, "Double First Class" universities, and regular universities exhibited a decreasing trend of teaching competence scores across the respective dimensions.

8) Regional Variations

The universities were classified into three major economic regions (Eastern, Central, and Western) according to the regional classification criteria. The one-way analysis of variance (ANOVA) results indicated no significant difference in the overall teaching competence levels among ideological and political theory teachers from different regions. However, when examining the first-level indicators, teachers from Eastern universities outperformed their counterparts from Central and Western regions significantly in terms of knowledge and ability dimensions of teaching competence.

FIGURE I.   STATISTICAL HISTOGRAM DEPICTING FUNDAMENTAL REASONS FOR CAREER CHOICES

9) Fundamental Analysis of Career Choices

The fundamental reasons for university teachers choosing to specialize in the field of ideological and political theory education can be categorized into five aspects. Firstly, their choices are influenced by factors such as their academic discipline and educational background. Secondly, they recognize the significant importance of ideological and political theory education and aspire to contribute to the growth and development of young individuals. Thirdly, they perceive that teaching ideological and political theory courses carries relatively less academic pressure and offers satisfactory job prospects. Fourthly, the emphasis placed on ideological and political theory courses by the Party Central Committee contributes to the positive professional development outlook in this field. Finally, there are other miscellaneous factors that also play a role in their decision-making process.

The motivations for assuming positions were coded and analyzed using one-way ANOVA to examine the differences in teaching competence among ideological and political theory

The root causes of career choice statistics
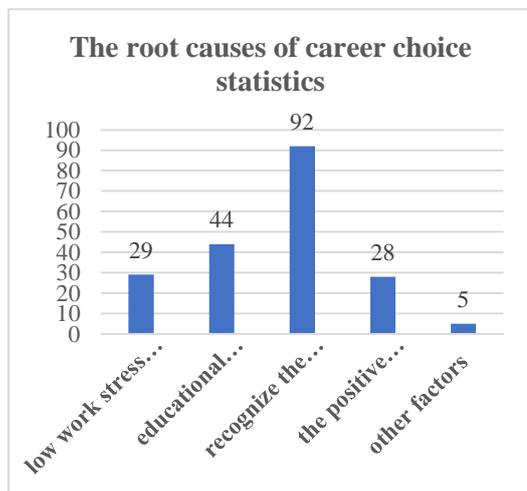
teachers based on various motivations. Results showed that teachers with intrinsic motivations demonstrated significantly higher overall teaching competence compared to others. Teaching competence levels decreased in teachers influenced by career prospects, educational qualifications, and professional characteristics. Moreover, teachers with intrinsic motivations

achieved higher scores in the ability and knowledge dimensions, while those influenced by career prospects obtained higher scores in the attitude/values and personal traits dimensions.

IV. ENHANCING TEACHING COMPETENCE OF UNIVERSITY IDEOLOGICAL AND POLITICAL THEORY TEACHERS IN A SMART LEARNING ENVIRONMENT: STRATEGIES AND SOLUTIONS

An analysis of survey data reveals that university ideological and political theory teachers exhibit overall good teaching competence in a smart learning environment. However, there is room for improvement, particularly in areas such as innovation capability, platform utilization, and smart instructional design. Moreover, significant differences in teaching competence were found among teachers based on factors such as age, experience, title, discipline, university type, and career motivations. To enhance their teaching competence in a smart learning environment, it is recommended to focus on internal capacity building and external control.

A. Internal Capacity Building: Establishing a Collaborative Learning Community for University Ideological and Political Theory Teachers.

To address the identified gaps in teaching innovation capability, an internal capacity building approach can be adopted. This approach involves disciplinary-based communities of practice, utilizing teaching research rooms and online platforms. By aligning with the objectives and tasks of smart learning environments, a "virtual + physical" professional learning community for university ideological and political theory teachers can be established. Through ongoing teaching discussions and collaborative practices, this community aims to enhance teachers' innovation awareness and capability in a smart learning environment.

Firstly, universities should provide the necessary resources and platforms for the establishment of a "virtual + physical" professional community for ideological and political theory teachers. Building upon the grassroots ideological and political theory teaching and research offices set up in accordance with the requirements of the Ministry of Education, universities can

learn from the experiences of other entities in constructing online learning communities. This allows for innovation and reformation of existing grassroots offices, enabling community members to engage in collective learning in physical classrooms while transcending spatial distances through virtual connectivity and resource expansion via online platforms.

Secondly, the community needs to foster a new culture of collaboration, sharing, and mutual benefits, creating an inclusive and supportive learning environment. In terms of ideological consciousness, a communication channel should be established within the community, enabling teachers to express their thoughts and ideas. Furthermore, cross-school and cross-regional exchanges and integration can broaden their teaching perspectives and promote professional development. Regarding the distribution of rights and responsibilities, individual autonomy should be guaranteed within the community while clarifying the collective responsibilities of the teaching staff. Additionally, relevant standards and evaluation systems need to be formulated within the community to ensure the harmonization of autonomy and collectivity.

Finally, it is important to prioritize the development of individual instructional leadership for ideological and political theory teachers by leveraging the community. Firstly, thematic seminars can be conducted to focus on current affairs policies and educational hot topics, aiming to improve the development and enhancement of ideological and political theory courses. Secondly, engaging in curriculum evaluation and exchange activities can encourage teachers to reflect on their own classrooms and deepen their understanding of curriculum construction, thereby promoting the development of their instructional leadership abilities with a focus on "research-analysis-reflection" practices.

B. External Control: Establishing a Comprehensive System for the Construction of the Ideological and Political Theory Teacher Workforce.

In terms of external control, a comprehensive system for the construction of the ideological and political theory teacher workforce can be established by considering early-stage teacher recruitment and selection, mid-stage teacher training and development, and late-stage teacher assessment and evaluation.

Firstly, in the area of teacher recruitment and selection for ideological and political theory, it is necessary to evaluate candidates' willingness and career development plans in the field of ideological and political theory education. Candidates who demonstrate enthusiasm and pursuit for teaching ideological and political theory should be selected to contribute to the development of ideological and political education and enter the teaching field.

Moreover, in the area of ideological and political theory teacher training, regular activities can be organized with a focus on professional seminars and experience sharing. This encourages ideological and political theory teachers to deepen their understanding of professional knowledge through communication, sharing, and learning from exemplary practices. Specialized training courses targeting full-time ideological and political theory teachers could also be offered. These courses aim to provide correct guidance on professional beliefs and missions, as well as update and expand teaching philosophies and practices of ideological and political theory teachers. In particular, the integration of intelligent learning and the construction of ideological and political theory courses needs to be emphasized, and teachers should be guided through detailed training courses. Additionally, it is suggested to establish mutual aid groups for new and experienced teachers to fully leverage the strengths of teachers from different age groups.

Finally, in terms of ideological and political theory teacher evaluation, the unique characteristics and responsibilities of ideological and political theory teachers in higher education institutions should be fully considered. It is important to balance the two core tasks of education and teaching with scientific research. Specifically, in addition to traditional research assessment indicators, comprehensive measures such as student evaluations, objective assessment of teaching effectiveness, and progress in innovative teaching practices should be incorporated into teacher performance evaluations and promotion reviews. This encourages teachers to keep up with emerging teaching trends such as smart teaching and enables the integration of research and teaching. By building on high-quality scientific research, the aim is to enhance the quality of ideological and political theory classroom instruction, creating an environment

where teachers enjoy teaching, students love learning, and the wider society recognizes the value of ideological and political theory coursework.

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