

# Exploration on the Practical Paths of Curriculum Ideology and Politics in the Core Course Group of Applied Statistics Major

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## ABSTRACT

Under the guidance of the fundamental task of fostering virtue through education, curriculum ideology and politics has become a core component of talent cultivation in universities. Aiming at the problems such as fragmented resources, single teaching mode and disconnection between industry and education integration in the construction of curriculum ideology and politics for the core course group of applied statistics major, this paper explores the practical paths from three dimensions: the construction of resource database, the innovation of teaching mode and the improvement of collaborative mechanism. By building a systematic curriculum ideology and politics resource database, constructing a three-dimensional collaborative teaching mode of "theoretical teaching - case practice - value guidance", and establishing a long-term mechanism integrating curriculum ideology and politics with industry-education integration, the in-depth integration of professional education and ideological and political education is realized, which provides a promotable practical paradigm for the construction of curriculum ideology and politics in applied statistics and similar majors.

**KEYWORDS:** *Applied Statistics; Core Course Group; Curriculum Ideology and Politics; Teaching Mode.*

## 1. INTRODUCTION

Driven by the wave of big data in the new era, data resources have become a core engine driving social progress and economic development. As a key discipline for data mining and analysis, the professional value of applied statistics has been increasingly deepened in the penetration of finance, logistics, internet and other fields. The in-depth integration of disciplinary development and social demand has provided abundant practical carriers and application scenarios for the integration of curriculum ideology and politics into professional teaching. To implement the fundamental task of fostering virtue through education, universities need to organically integrate value shaping, knowledge imparting and ability training, and promote the coordinated development of various courses and ideological and political courses, which defines the core direction and clarifies the construction requirements for the construction of curriculum ideology and politics in applied statistics major.

The construction of curriculum ideology and politics in applied statistics major has dual strategic values: it can explore ideological and political elements such as the philosophical implication in professional methodology and the value orientation in data ethics, and cultivate students' rigorous scientific spirit, data ethics awareness, national sentiment and social responsibility; it can also solve the problem of separation between professional education and ideological and political education, and promote the in-depth integration of technological empowerment and value guidance. At present, the construction of curriculum ideology and politics for its core course group is still facing many practical challenges. Combining with the teaching practice of applied statistics major in Beijing Wuzi University, this paper focuses on core courses such as Applied Regression Analysis, explores the collaborative construction path of curriculum ideology and politics, and constructs a curriculum ideology and politics education system with industrial characteristics.

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## 2. Main Problems in the Construction of Curriculum Ideology and Politics in the Core Course Group of Applied Statistics Major

At present, the construction of curriculum ideology and politics for the core course group of applied statistics major is still facing many practical challenges, which are mainly reflected in the following three aspects:

(1) Fragmented resources of curriculum ideology and politics and lack of systematic integration At present, the curriculum ideology and politics resources of the core courses of applied statistics major are scattered in a single point, and the ideological and political elements of each course are isolated and scattered, failing to form an organic whole. On the one hand, the connection between ideological and political cases and professional knowledge is relatively rigid, lacking in in-depth exploration of the disciplinary connotation of statistics and the philosophical implication of methodology. On the other hand, the ideological and political themes of each course in the course group lack logical correlation, which is difficult to support the systematic construction of the professional curriculum ideology and politics education system and cannot realize the progressive cultivation of ideological and political education.

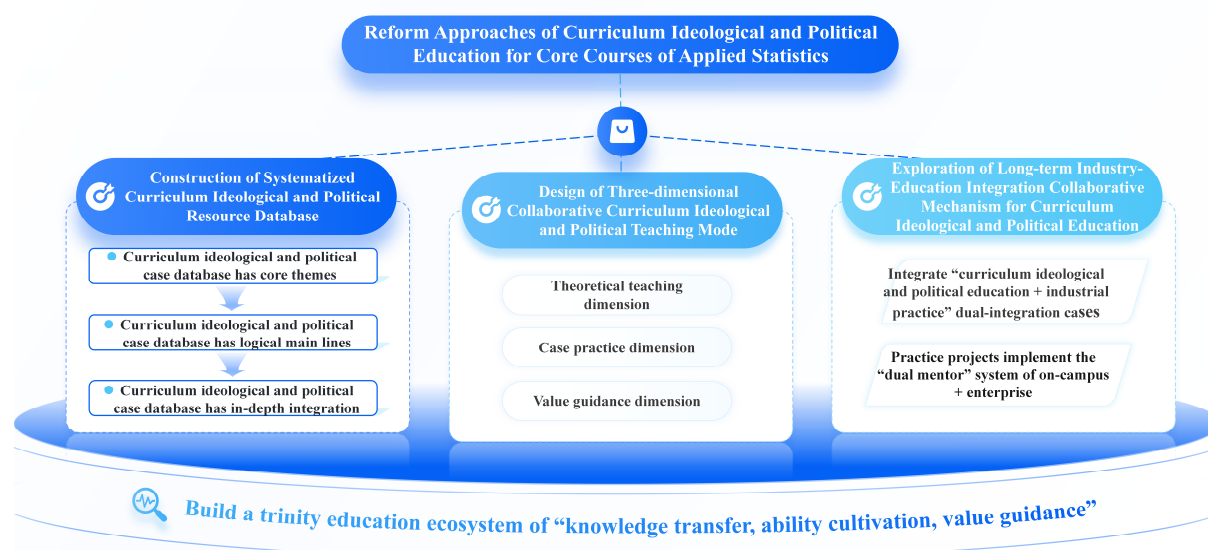
(2) Single and rigid teaching mode and insufficient effectiveness of ideological and political integration The teaching of curriculum ideology and politics still adopts the traditional mode of theoretical indoctrination plus case presentation, lacking flexibility and practicality. In the highly theoretical courses such as Applied Regression Analysis, ideological and political elements are mostly transmitted passively through classroom teaching; in

practical courses such as Data Mining, the links of integrating ideological and political content are not fully designed in combination with teaching forms such as case-based learning. This single teaching mode is difficult to stimulate students' awareness of active participation, leading students' understanding of ideological and political elements to stay on the surface, and failing to realize the synchronous improvement of professional ability and ideological and political literacy.

(3) Disconnection between industry and education integration and lack of practical scenarios for curriculum ideology and politics The construction of curriculum ideology and politics is mostly limited to on-campus teaching, lacking in in-depth integration with industrial practice. At present, the construction of curriculum ideology and politics is short of ideological and political cases from real enterprise scenarios, and the existing cases are mostly idealized simulation materials, making it difficult for students to experience the professional ethical dilemmas and social responsibility in data statistics work.

## 3. Reform Approaches to the Construction of Curriculum Ideology and Politics in the Core Course Group of Applied Statistics Major

Aiming at the main problems in the construction of curriculum ideology and politics for the core courses of applied statistics major, combined with the teaching practice of Beijing Wuzi University, this paper puts forward reform approaches from three dimensions: the construction of resource database, the innovation of teaching mode and the improvement of collaborative mechanism, so as to promote the in-depth integration of curriculum ideology and politics and professional education.



**Figure 1. Exploration on the Practical Paths of Curriculum Ideology and Politics in the Core Course Group of Applied Statistics Major**

### 3.1. Construct a Systematic Curriculum Ideology and Politics Resource Database to Consolidate the Foundation of Education

Break the barriers between courses, build a multi-level curriculum ideology and politics resource database with "core themes, logical main lines and in-depth integration", and realize the organic connection between ideological and political elements and professional content.

First, design the core ideological and political context with thematic characteristics. Connect the professional knowledge system of core courses such as Applied Regression Analysis and Applied Multivariate Statistical Analysis, and extract four core ideological and political themes: data integrity, social responsibility, scientific spirit and national sentiment. For example, around the theme of social responsibility, in the course of Applied Regression Analysis, set up cases of people's livelihood consumer price index analysis to enable students to interpret the correlation between price changes and people's livelihood well-being through regression models; in the course of Sampling Technology and Application, embed sampling survey cases of the sales status of agricultural products in rural revitalization to guide students to accurately collect data and help farmers increase their income; in the course of Applied Multivariate Statistical Analysis, design practical tasks for evaluating the efficiency of regional logistics development, and provide statistical support for the coordinated development of different regions through analyzing logistics data of various regions, thus forming a connected and progressive ideological and political education chain with consistent themes.

Second, embed into professional teaching modules in a logical way. Take the course knowledge module as the logical main line, and accurately embed ideological and political cases into teaching links. In the theoretical teaching module, introduce the academic stories of statisticians combined with relevant knowledge points to cultivate the scientific spirit; in the practical operation module, guide students to use statistical methods to serve national strategies through cases such as "Consumption Data Analysis of Rural Revitalization" and "Statistical Modeling of Low-carbon Transformation in Logistics"; in the comprehensive application module, set up data ethics debate sessions to discuss the balance between personal privacy protection and data value mining in the era of big data.

In addition, form resource packages through in-depth integration. Optimize the case design, and each ideological and political resource package includes

three parts: professional cases, statistical methods and value orientation. For example, the resource package of "Statistical Modeling of Low-carbon Transformation in Logistics" not only covers the application methods of panel data models, but also integrates the concept of green development and the awareness of industry responsibility, and strengthens the practicality and inspiration of ideological and political education through virtual simulation experiments and interdisciplinary thematic seminars.

### 3.2. Innovate the Three-dimensional Collaborative Teaching Mode to Improve the Effectiveness of Integration

Construct a three-dimensional collaborative teaching mode of "theoretical teaching - case practice - value guidance", design differentiated ways of integrating ideological and political content in combination with the characteristics of different courses, and realize the synchronous improvement of professional ability and ideological and political literacy of students.

In the dimension of theoretical teaching, adopt case-based and problem-based teaching methods to naturally integrate ideological and political elements into the explanation of professional knowledge points. For example, in the course of Sampling Technology and Application, take the "Survey on Residents' Awareness, Participation and Satisfaction in Beijing's Civilized City Creation" as a case to explore the relevant situation of civilized city creation in Wangxinzhuang Town, Pinggu District of Beijing, help students apply what they have learned, connect professional knowledge with practice, and encourage students to go deep into the grassroots and actively serve the economic and social development of the capital.

In the dimension of case practice, relying on the practical teaching links of courses such as Data Mining, implement the project-based learning mode, take the statistical modeling competition as an important carrier, and guide students to carry out collaborative exploration in groups. Under the systematic guidance of teachers, students participate in the writing of competition papers in the whole process, and strengthen the awareness of data ethics, the attitude of rigorous scholarship and the spirit of team cooperation in the whole process of data collection, model construction, result interpretation and conclusion application, so as to realize the dual improvement of practical ability and professional literacy.

In the dimension of value guidance, deepen the effect of ideological and political education through links such as course reports and classroom discussions. In course reports, students are required to elaborate on

the impact of statistical analysis results on social decision-making; in classroom discussions, in-depth discussions are carried out on hot issues such as "data security and privacy protection".

### 3.3. Improve the Collaborative Mechanism of "Curriculum Ideology and Politics + Industry-education Integration" to Expand Practical Scenarios

Based on the cooperation foundation of statistics major with government statistical departments and data enterprises, construct a "university-enterprise-government" collaborative education mechanism to make up for the shortage of practical scenarios for curriculum ideology and politics.

On the one hand, jointly build and develop an integrated case database through case cooperation. Cooperate with enterprises to jointly develop an integrated case database of "Curriculum Ideology and Politics + Industrial Practice", transform scenarios such as data privacy protection and objective presentation of statistical results in real enterprise projects into curriculum ideology and politics materials. For example, integrate the data verification process in the carbon emission statistics of logistics enterprises into the course of Applied Multivariate Statistical Analysis to realize the organic integration of ideological and political elements and industry norms. On the other hand, strengthen the cognition of professional ethics through joint practice education. Implement the double supervisor system of "on-campus teachers + enterprise technical backbones", and carry out professional skills and ideological and political education simultaneously in actual combat projects. When students participate in enterprise market research projects, enterprise supervisors explain the professional norms in the process of data collection, and on-campus teachers guide students to discuss the impact of statistical results on enterprise decision-making and the interests of the public, so as to cultivate students' awareness of professional ethics and social responsibility.

### 4. Conclusion

The construction of curriculum ideology and politics in the core course group of applied statistics major is a key measure to implement the fundamental task of fostering virtue through education. Combining with the teaching practice of Beijing Wuzi University, this

paper addresses the problems of fragmented resources, single teaching mode and disconnection between industry and education integration, and realizes the in-depth integration of ideological and political education and professional education by constructing a systematic curriculum ideology and politics resource database, innovating a three-dimensional collaborative teaching mode and improving the collaborative mechanism of industry-education integration. The reform practice has effectively improved the educational effectiveness of curriculum ideology and politics, helped students form the awareness of data integrity, social responsibility and scientific spirit, and provided a replicable and promotable practical paradigm for the construction of curriculum ideology and politics in applied statistics and similar majors.

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### References

- [1] Bai Yizhou, Zhang Chunxiao, Guan Jing. The Architecture and Implementation of a New System for Statistics Course Groups in the Era of Digital Intelligence[J]. Education and Teaching Forum, 2023(33):13-16.
- [2] Hu Yangli, Wang Hesong. Exploration on the Construction of Applied Statistics Course Groups in Science and Engineering Universities[J]. Education and Teaching Forum, 2017(47):2.
- [3] Yang Nian, Yin Liangliang, Huang Yuyan. Reform and Practice of Applied Undergraduate Majors in the Era of Digital Intelligence -- Taking the Major of Economic Statistics as an Example[J]. Journal of Hebei Software Institute, 2024,26(3):41-44.
- [4] Zhu Hui, He Jian, Fang Min. The Construction and Practice of Statistics Course Groups for the Major of Economic Statistics[J]. Statistics and Management, 2018(6):21-26.