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Research on Ideological and Political Education in Big Data Technology Professional Courses under the Theme of "Focusing on Shipping and Multi-dimensional Collaboration"

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Abstract: This article explores the research background, ideas, methods and content of ideological and political education in big data technology professional courses under the principle of "focusing on shipping and multi-dimensional collaboration". Research shows that the construction of ideological and political education in industry-specific university courses needs to be closely integrated with the school's own educational characteristics, explore the teaching practice of ideological and political education in university courses, and enhance the scientificity and effectiveness of ideological and political education in industry-specific university courses. Jiangsu Maritime College is committed to building a curriculum ideological and political education system with industry characteristics by developing the Big Data Technology major into an emerging major highlighting industry features. The research adopted the methods of literature analysis, multi-disciplinary cross-research and data analysis, focusing on the maritime characteristics of the school, to reconstruct the ideological and political education system and teaching design of professional courses, aiming to enhance the quality of talent cultivation and establish a development mechanism of "mutual growth of ideological and political education, teaching and research" in professional courses. Ultimately, the research results have formed a set of sustainable, replicable and scalable experiences in the construction of ideological and political education in computer-related professional courses with industry characteristics, which will contribute to the implementation of the strategies of building a shipping power and a data power.

Keywords: Focus on Shipping; Multi-dimensional Collaboration; Big Data Technology; Ideological and Political Education in Courses.

1. Introduction

Over the years, ideological and political education[1][2][3] in colleges and universities has achieved a series of remarkable accomplishments through continuous exploration and practice. However, at the same time, the "island" predicament it faces has gradually emerged, and the gap between ideological and political education and professional teaching goals has also been gradually widening[4]. This issue has attracted widespread attention. Industry-specific universities, with their unique industry-specific advantages and abundant educational resources, provide a solid guarantee for the cultivation of high-quality talents in higher education institutions[5]. In the process of building ideological and political education in courses, industry-specific universities must closely integrate their own educational characteristics, constantly explore and deepen the teaching practice of ideological and political education in courses, truly enhance the scientificity and effectiveness of ideological and political education in courses in industry-specific universities from the supply side, and effectively promote the realization of the fundamental task of fostering virtue and nurturing talent in universities.

The rapid development of the new business form of smart shipping in Jiangsu urgently requires a large number of high-quality compound skilled talents who master shipping knowledge and new-generation information technology. Jiangsu Maritime College has fully leveraged its educational advantages, closely focusing on the emerging and urgently needed positions in smart shipping under the "Big Data + Shipping" model. It has developed the Big Data Technology major into an emerging major highlighting industry characteristic, and this professional group has been successfully selected as a provincial high-level professional group. Based on the school's profound maritime heritage and unique educational characteristics, building a curriculum ideological and political education system with industry features has become an inevitable choice for the reform of ideological and political education in courses. Since the establishment of the Big Data Technology major, the reform and practice of integrating maritime characteristics into ideological and political teaching in courses have always been the direction of its continuous progress[6]. This exploration not only holds significant reference value for the ideological and political construction of IT major courses in similar institutions, but also has strong practical application value.

In May 2020, the Ministry of Education officially issued the "Guiding Outline for the Construction of Ideological and Political Education in College Courses", clearly stating that comprehensively promoting the construction of ideological and political education in courses is a strategic measure to implement the fundamental task of fostering virtue and nurturing talent.

As of February 2025, a search on China National Knowledge Infrastructure (CNKI) with the search term "ideological and Political education in Higher Vocational Courses" yielded a total of 12,193 relevant documents. Research on the topic of "Ideological and Political Education in Higher Vocational Courses" has been on the rise year by year, with a very high research popularity. Especially in the past two years, this theme has become a hot and focal point

of research[7][8]. The research topics mainly cover multiple aspects such as the reform of ideological and political education in courses, the design of ideological and political education in courses, the integration of ideological and political elements in courses, the improvement of teachers' ideological and political education capabilities in courses, the construction of ideological and political education evaluation systems in courses, and collaborative education.

However, when searching on China National Knowledge Infrastructure (CNKI) with the search term "Vocational colleges with industry-specific characteristics in ideological and political education in higher vocational courses", no relevant documents were retrieved. Even when searching with the same term, only 14 documents were found. Among the few studies on the construction of ideological and political education in industry-specific university courses, scholars have conducted in-depth research on the construction of ideological and political education in courses in different types of institutions such as those with civil aviation characteristics, ceramic characteristics, agricultural and forestry characteristics, and coal characteristics. For instance, Wang et al. took Jingdezhen Ceramic University, the only comprehensive university in China named after ceramics, as an example, and promoted the continuous improvement of ideological and political education in courses in industry-specific universities from three aspects: enhancing ideological understanding, reforming management systems, and establishing evaluation systems. Xu Shuyan et al. took Northeast Forestry University as an example, and in light of the university's educational characteristics, explored the practical reform of ideological and political education in courses from multiple perspectives, providing valuable experience and reference for the construction of ideological and political education in courses in industry-specific universities.

2. Research Ideas and Methods

2.1. Research Ideas

Based on the unique maritime education characteristics of the school, we are firmly committed to the goal of cultivating the core literacy of talents in the field of shipping big data, and take assisting in the construction of a shipping power and the strategy of a data power as the core thread of ideological and political education. Make full use of high-quality resources such as provincial engineering research centers, provincial outstanding teaching teams, provincial industry-education deep integration alliances, and provincial high-level scientific research teams. By meticulously constructing a "focusing on the shipping field and multi-dimensional coordinated development" ideological and political education teaching system for the big data technology major, Committed to creating a systematic, complementary and resource-integrated collaborative education community that encompasses multiple carriers and entities. On this basis, a rich and diverse ideological and political education package with unique maritime characteristics has been created, aiming to cultivate high-quality and highly skilled shipping informatization talents who can support the strategy of building a shipping power and the construction of "Waterway Jiangsu", and to explore a new idea for shipping education reform that meets the needs of the new era.

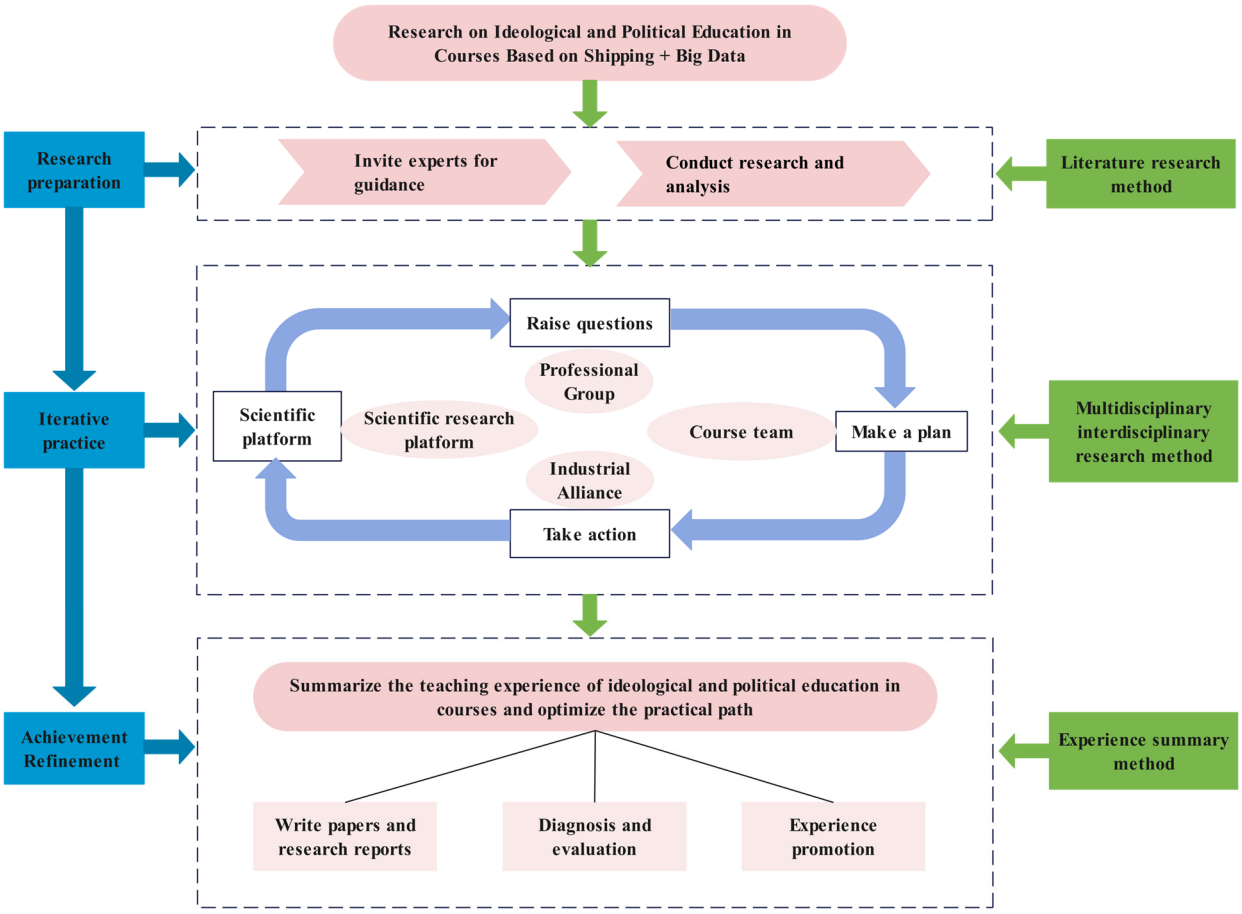


Figure 1. Research ideas

2.2. Research Methods

(1) Literature analysis method

By making use of library and online resources to consult and collect literature and materials related to ideological and political education in industry-specific college courses and IT talent cultivation based on industry characteristics, clarify the current research issues and status quo, determine the research tasks and scope of the topic, and through the study and comparative analysis of the literature, form a systematic and regular understanding of the research topic.

(2) Interdisciplinary research methods

The research project comprehensively applies the research methods and basic theories of Marxist philosophy, education, communication studies and statistics, forming an interdisciplinary advantage and making the research conclusions more scientific.

(3) Data analysis method

Collect data on the information of smart shipping positions to obtain the professional qualities, professional ethics and other requirements of enterprises for smart shipping positions in higher vocational colleges. Through data statistics and analysis, provide real and effective data support for theoretical argumentation.

3. Research Content

Based on an in-depth analysis of the current situation of talent cultivation in the big data technology major, this study addresses the prominent issues such as the lack of distinct ideological and political characteristics in current professional courses, insufficient coordination between ideological and political education in courses and ideological and political courses, and insufficient effectiveness of ideological and political education in courses. It focuses on the unique maritime characteristics of the school and adheres to the overall ideological and political work pattern of "the three colors of light illuminating the all-round education" of the school. Closely integrating the actual demands of smart shipping for compound talents in shipping big data application and professional capabilities in big data technology, based on the innovative concept of "focusing on shipping and multi-dimensional collaboration", the ideological and political education system and teaching design of professional courses are comprehensively restructured. Through systematic teaching practice, we aim to strengthen students' profound sense of responsibility for the mission of building a strong shipping nation, significantly enhance the overall quality of talent cultivation, and establish a development mechanism for ideological and political education in professional courses featuring mutual growth of ideological and political education and research. We will also form a set of sustainable, replicable and scalable experiences in ideological and political education in computer-related professional courses with distinct industry characteristics. It provides valuable reference and guidance for related majors and courses in similar universities. The research content is specifically divided into the following aspects:

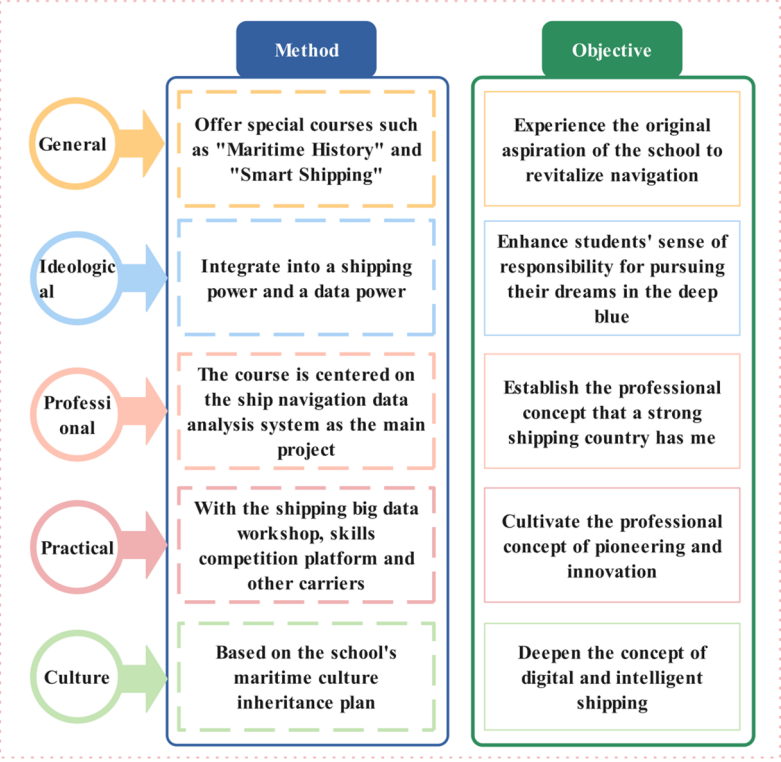


Figure 2. A teaching system for ideological and political education in courses under the principle of "focusing on shipping and multi-dimensional collaboration"

(1) Build a teaching system for ideological and political education in courses under the principle of "focusing on shipping and multi-dimensional collaboration"

The research is based on the specific academic situation of the Big Data Technology major, closely centered on the core goal of cultivating the core literacy of shipping big data application talents, fully utilizes the unique advantages of the school-based maritime characteristic culture, comprehensively implements the educational concept of "all-round education", and builds a system led by "focusing on

shipping and multi-dimensional collaboration" A teaching system that integrates, supports and collaboratively educates students from multiple aspects such as general education courses, ideological and political courses, specialized courses, practical activities and campus culture. Through the construction of this system, efforts are made to achieve the integration of educational goals, educational synergy and educational outcomes, ensuring that all links are closely connected and forming an efficient educational synergy.

(2) Build a teaching framework for ideological and political education in courses that focuses on shipping and features multi-dimensional collaboration

This research aims to deeply explore the ideological and political elements contained in shipping big data and integrate them into a comprehensive education system covering all staff, the entire process and all aspects, with maritime culture as the support, to build a large-scale ideological and political framework. We will create a teaching framework for ideological and political education in courses based on "one center, two lines, three carriers, four subjects, and six steps", to achieve multi-dimensional collaboration in carriers, subjects, and platforms that combine shipping with big data technology, thereby realizing the educational goal of "focusing on shipping and multi-dimensional collaboration", and achieving a coherent and unified educational effect.

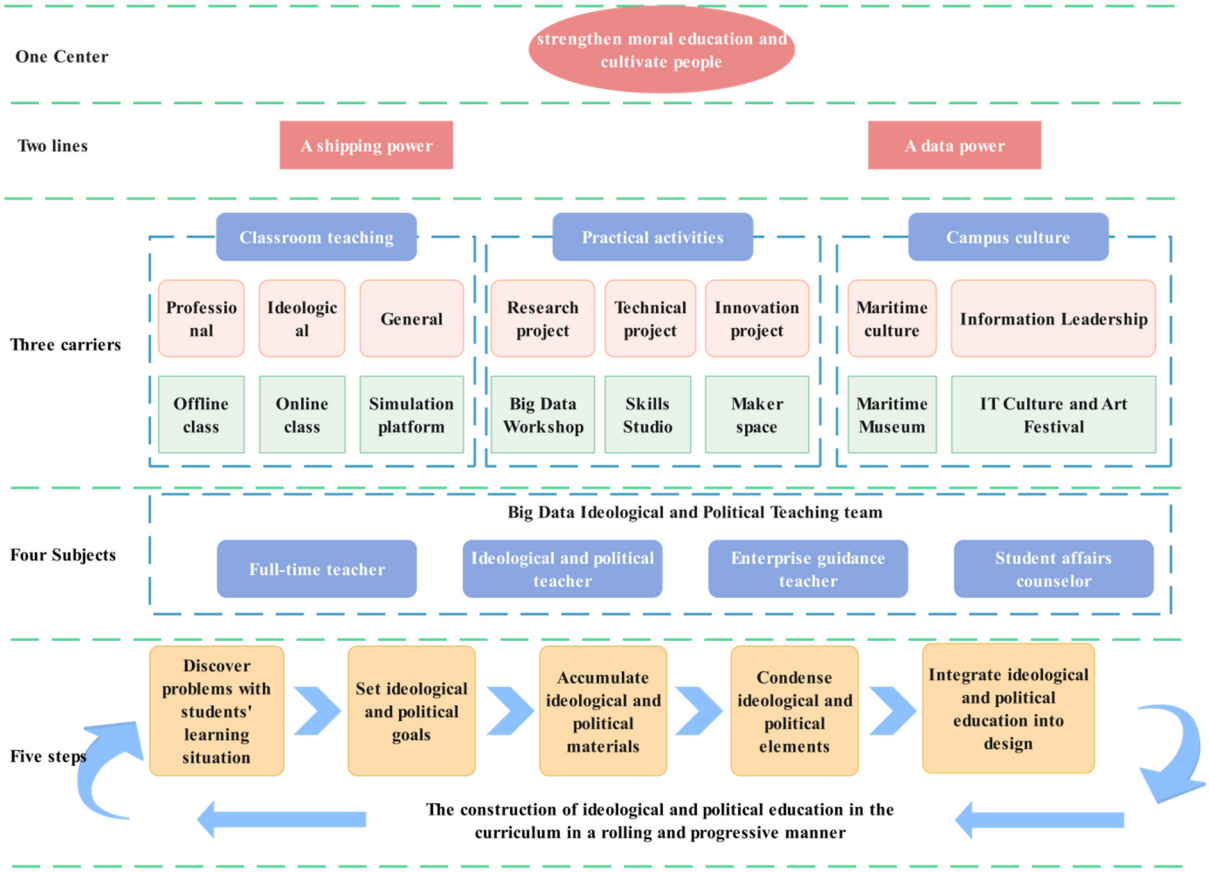


Figure 3. A teaching framework for ideological and political education in courses under the principle of "focusing on shipping and multi-dimensional collaboration"

(3) Implement the teaching practice of ideological and political education in courses that focuses on shipping and features multi-dimensional collaboration

This research will adopt a six-step approach of "identifying student situation issues - formulating ideological and political goals - accumulating ideological and political materials - condensing ideological and political elements - designing ideological and political integration - evaluating ideological and political effects" to continuously promote the circular development of ideological and political education in courses and form a complete closed loop of ideological and political education in courses. In terms of professional construction, we will deeply explore the distinctive maritime culture, incorporate elements of a shipping power and a data power, and reconstruct the talent cultivation plan, curriculum standards, teaching plans and the selection of teaching content for big data technology. In terms of course construction, we will accumulate and refine ideological and political materials for smart shipping, actively introduce information technology and artificial intelligence technology, assist in the construction of ideological and political content in courses, and achieve the teaching practice of "focusing on shipping and multi-dimensional collaboration" in ideological and political courses.

4. Conclusion

This article elaborates in detail on a curriculum ideological and political education system centered on "focusing on shipping and multi-dimensional collaboration". Through the meticulous construction of a teaching framework and the in-depth implementation of teaching practice activities, this system has significantly enhanced the practical effect of ideological and political education. This education system not only enhances students' sense of responsibility and commitment to the mission of building a shipping power, but also significantly improves the overall quality of talent

cultivation.

This study adopted a multi-disciplinary cross-research approach and data analysis method to conduct in-depth research on issues such as the lack of distinct ideological and political characteristics in courses and insufficient collaboration, and proposed effective solutions. Through these studies, a set of sustainable, replicable and scalable experiences in the construction of ideological and political education in computer-related professional courses with industry characteristics has been formed, providing valuable references and inspirations for other similar universities.

The research results are of great significance for the construction of ideological and political education in courses in industry-specific universities. It not only promotes the deep integration of ideological and political education with professional teaching, achieving an organic combination of the two, but also provides a large number of high-quality compound skilled talents for the field of smart shipping. These talents not only possess solid professional knowledge but also have a strong sense of responsibility and mission, providing powerful talent support for the implementation of China's strategies to become a shipping power and a data power.

Acknowledgments

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