

Research on Curriculum Construction of Big Data Analysis and Development from the Perspective of Curriculum Ideological and Political Education

Yingying Chen*, Enze Wu, Taizhi Lv

School of Information Engineering, Jiangsu Maritime Institute, Nanjing 211170, China

*760846936@qq.com

Abstract

Curriculum ideological and political education is implicit ideological and political education, which contains value guidance in the teaching of professional knowledge and abilities. Curriculum ideological and political construction is an important task to comprehensively improve the quality of talent training. The big data analysis and development course relies on the provincial high-level professional group construction tasks and the OBE curriculum reform carried out by the school. Based on the ideological and political perspective of the course, it integrates maritime characteristics, reconstructs the course content, systematically designs the ideological and political course, and optimizes the ideological and political course methods. . Research on curriculum construction based on curriculum ideology and politics can help improve students' professional ethics, professional abilities, and professional habits, and truly integrate explicit education and implicit education.

Keywords

Curriculum Ideological and Political Education; Big Data Analysis and Development Curriculum; Project-based Teaching; Maritime Features; Three-All Education.

1. Introduction

The curriculum ideological and political education is guided by the basic viewpoints and methods of Marxism. In non-ideological theoretical courses, the curriculum educates people, deeply explores the ideological and political elements contained in this course, and integrates ideals and beliefs education, moral standards education, and professional quality education [1]. Throughout the entire process of teaching practice, it not only cultivates students' professional abilities, but also does a good job in value guidance and personality cultivation, and cultivating socialist builders and successors with correct political stances and value orientations.

The big data analysis and development course is the core course of the big data technology major. The prerequisite courses are big data platform deployment and operation and maintenance, data collection, database basics, and programming basics. The subsequent courses are data mining and data visualization courses. The course will systematically explain data analysis and development tools such as Spark, Hive and ClickHouse and their applications in the shipping field, and introduce concepts, principles and methods through typical cases. In practice, teachers explain the background of the case and provide simple ideas. Guide students to carry out targeted analysis, review and discussion of cases, expand students' thinking and increase students' interest. Through students' discussions, independent practice and exercises, students' judgment ability, professional ability and comprehensive quality are improved.

Curriculum construction refers to the process of planning, designing and developing curriculum in the field of education. This process includes identifying course goals and learning objectives, selecting appropriate course content and teaching materials, designing course

structure and teaching methods, and evaluating and improving all aspects of the course. Curriculum construction aims to ensure that courses can effectively impart knowledge and skills, meet students' learning needs, achieve the goals of higher vocational education, and keep pace with the times to adapt to the changing educational and social environment.

This paper relies on the construction of provincial high-level professional groups and provincial engineering centers, and carries out curriculum construction practice for big data application and development courses from the perspective of ideological and political courses, and carries out curriculum construction practices that integrate ideological and political courses with maritime characteristics.

2. Review of Domestic and International Research

2.1. Domestic Research

In December 2017, the Ministry of Education issued an implementation outline for the quality improvement project of ideological and political work in colleges and universities, proposing to vigorously promote classroom teaching reform targeting curriculum ideological and political education. Curriculum ideological and political education has become an important carrier for the practice of professional courses in colleges and universities to cultivate moral integrity and cultivate people. In recent years, various disciplines have carried out strong ideological and political curriculum construction based on professional characteristics and achieved certain results [2]. As of October 31, 2023, a search on the theme course Ideology and Politics in the China National Knowledge Infrastructure database yielded a total of 61,253 related academic papers, of which only 1,160 were degree theses. Judging from the research trends in recent years, the course Ideology Politics has become one of the hot issues surrounding research in the domestic education academic community, as shown in Figure 1.

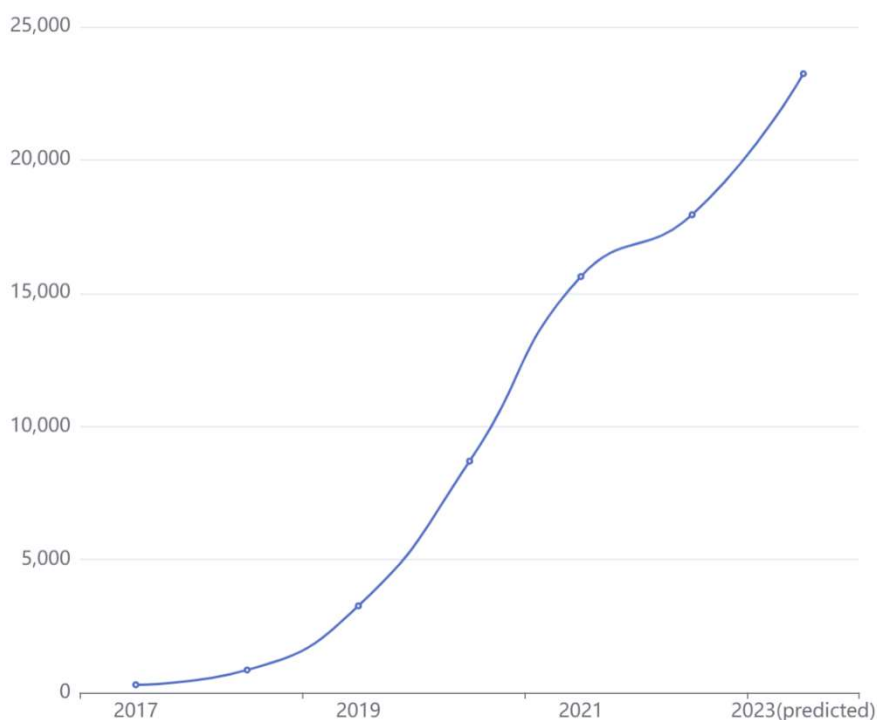


Figure 1. The annual number of papers issued

From the perspective of topic distribution, ideological and political construction, ideological and political teaching, ideological and political education, teaching reform, higher vocational

colleges, professional courses, college English, ideological and political courses, teaching design, etc. are all important starting points in studying ideological and political courses.

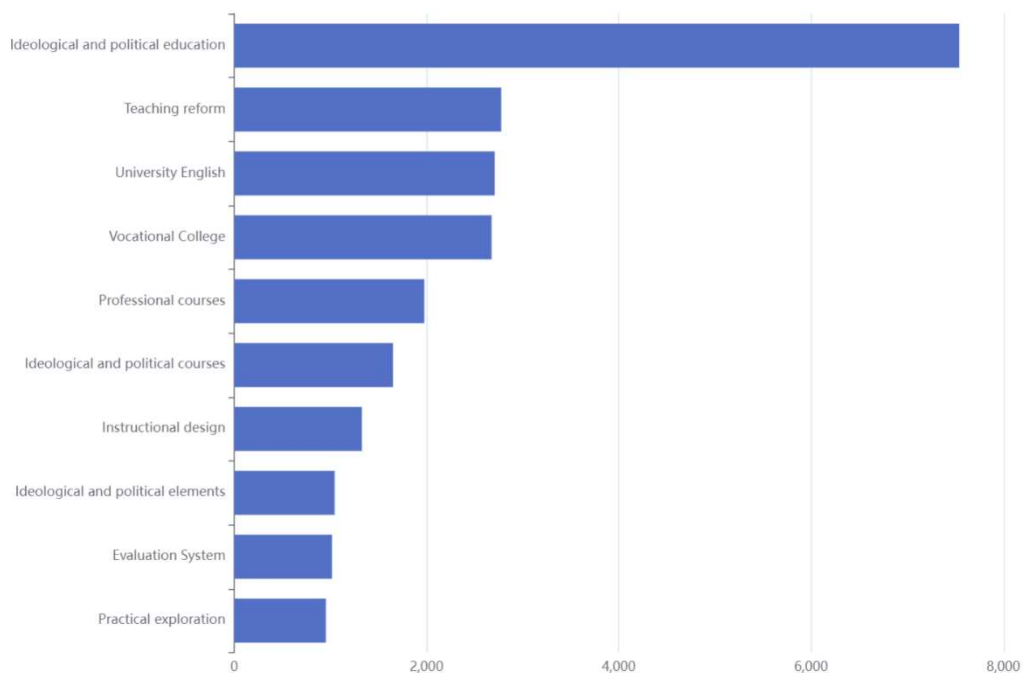


Figure 2. The literature distribution by different topic

From the perspective of subject distribution, both higher education and vocational education are the main battlefields of ideological and political courses. There are a large number of papers on curriculum ideology and politics in subjects such as foreign languages, computers, and medicine, and there are also many studies on curriculum ideology and politics in sports, English, accounting, and other courses.

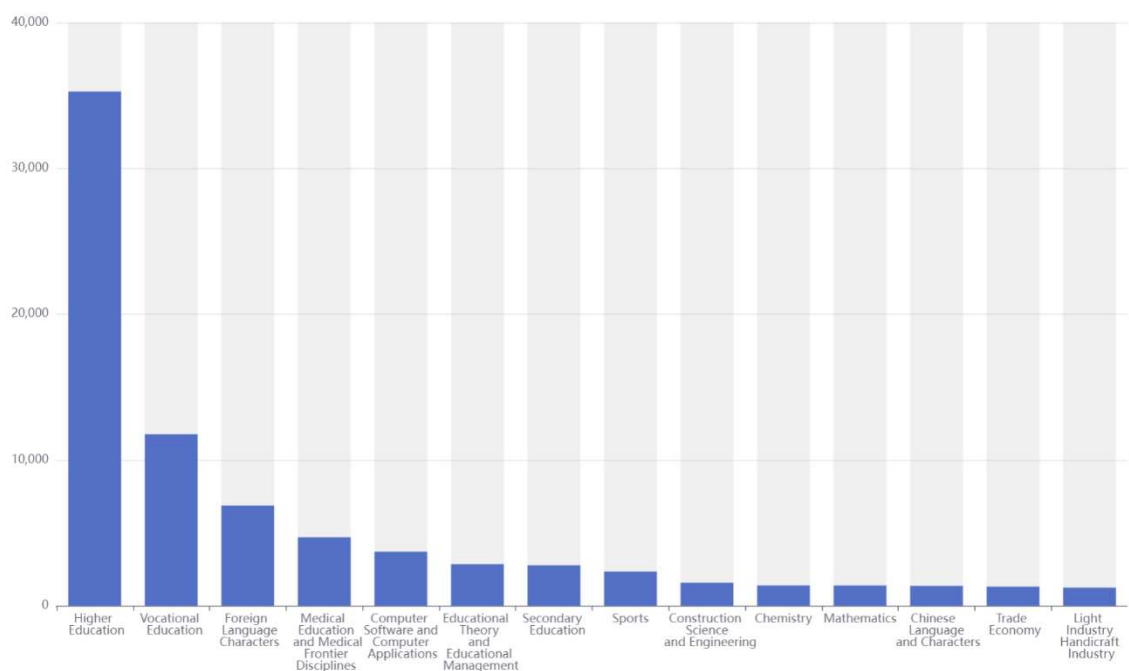


Figure 3. The literature distribution by different subject

With the deepening of research on curriculum ideological and political education, scholars have proposed many practical methods in the construction of curriculum ideological and political education. Ge etc. believe that the collaborative education of ideological and political courses and ideological and political courses is reflected in the synergy of teaching objectives, collaboration of educational subjects, collaboration of teaching content, collaboration of teaching methods, and collaboration of educational environment [3]. Jiang proposed that the key to the construction of ideological and political courses is to improve the ideological and political mechanism system of the curriculum, improve teachers' ideological and political concepts and abilities in the curriculum, and broaden the ways to integrate ideological and political elements. Li Si proposed that in the specific teaching process, digital technology should be fully utilized to empower curriculum ideological and political education, actively carry out various forms of curriculum ideological and political innovation research, and promote the reform of curriculum ideological and political models and ecological reconstruction.

2.2. International Research

Curriculum ideological and political education is an ideological and political education activity that comprehensively uses explicit and implicit teaching methods. Although there is no corresponding terminology in foreign academic circles, countries around the world are constantly enriching ideological and political education in research and practice in different professional fields [6-7]. The connotation and denotation. The general concept of ideological and political education is that a society or social group uses certain ideological concepts, political opinions, and moral norms to exert a purposeful, planned, and organized influence on its members, so that they can form ideas that meet the needs of a certain society and a certain class. Social practice activities of moral character, foreign ideological and political education teaching practices are consistent with our country's ideological and political curriculum construction, these practices are based on curriculum construction, have latent and highly permeable characteristics, and their ideological and political education are concentrated [8]. It is carried out in aspects such as civic education and moral education.

3. Practice of Big Data Analysis and Development of Curriculum Ideological and Political Construction

3.1. Curriculum Ideological and Political Construction with Maritime Characteristics

The Curriculum makes full use of special educational resources such as Maritime Safety Administration projects to make the ideological and political course easy to carry out, down-to-earth, and effective. The ship intelligent anti-pollution data project is a project that implements the curriculum. The project itself is an important case of the ideological and political education of the course. For example, the statistics of anti-pollution data extend to the importance of environmental protection, and a deep understanding that clear waters and lush mountains are valuable assets. From the analysis of AIS data, the analysis of ship position data based on Beidou signals is derived. Through comparative analysis of the domestic and foreign technical status of navigation technology, teachers encourage students to work hard, cultivate students' craftsman spirit of a great country that strives for excellence, and inspire students to serve the country with science and technology and build a transportation and maritime power. The mission of a powerful country. As shown in Figure 4, the entire teaching reflects the idea of a powerful transportation country and reflects the innovation of maritime characteristics.

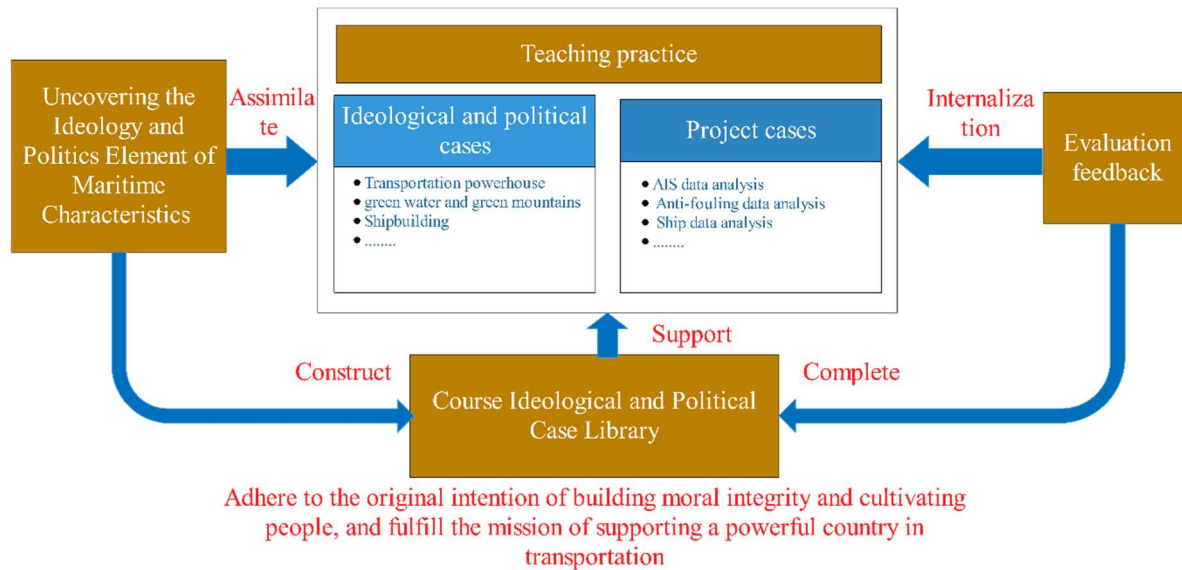


Figure 4. The curriculum ideological and political construction with maritime characteristics

3.2. Curriculum Construction based on the Curriculum Ideological and Political Perspective

Based on the integration of industry and education, science and education, the teaching development team, lecturers, experts from higher vocational colleges, and corporate mentors discussed together, and through the school-enterprise cooperation units Jiangsu Huihai Transportation Technology Co., Ltd., Nanjing Longyuan Microelectronics Technology Co., Ltd., etc. Visits and surveys of enterprises and related industries focused on sorting out the target requirements and development trends of technical talents in the three dimensions of knowledge, skills and quality for big data operation and maintenance engineers, big data analysis engineers and other positions in secondary vocational schools, and formed a Job competency analysis table, and based on the implementation talent training plan and provincial instructive curriculum standards, combined with academic conditions, jointly determine the three-dimensional curriculum goals, and develop implementation curriculum standards.

According to the curriculum standards, we develop teaching content and learning resources in accordance with the design process of analyzing job standards → refining professional capabilities → transforming learning areas → designing teaching projects → developing learning resources. The first is to develop course learning projects and supporting learning resources based on real work situations to ensure that the teaching content is effectively aligned with job standards; secondly, the teaching of knowledge points and skill points is arranged from easy to deep to promote the spiral improvement of students' professional abilities; finally, from easy to advanced It is difficult to design the project workflow and promote the iterative development of students' comprehensive literacy.

3.3. Collaborate with Multiple Parties to Achieve Three-All Education

As an important means of cultivating moral character and cultivating people, ideological and political courses are an important link in the three-round education. Teachers of professional courses are paired with counselors to accurately explore the ideological and political elements contained in professional courses. The counselors give key suggestions for ideological and political teaching in the course from the perspective of students' future development, transforming subject resources and academic resources into educational resources, achieving The organic unity of ideological and political education and knowledge system education.

With the help of digital platforms, online and offline teaching can complement each other and achieve a two-way synergy effect. Broaden the channels for ideological and political

construction of courses, use classroom teaching, skills training and second classroom social practice as platforms to carry out teaching activities from "three-in-one" multiple angles to cultivate all-round development of higher vocational students.

4. Conclusion

In view of the widespread problems such as labeling and two-skins in the current curriculum ideological and political education in higher vocational colleges, this paper studies the ideological and political elements that are highly consistent with the course knowledge and skills, conducts research on the design and implementation path of the course ideological and political system, and uses information technology, closely following the new technologies in the industry, forming a project-based ideological and political teaching method with maritime characteristics, and actively exploring new models of big data application and development curriculum construction in higher vocational colleges from the perspective of ideological and political courses.

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