

Pathways to Integrating Ideological and Political Education: A Case Study of the Information Management and Systems Major

Yuanzi He^a, Yantao He^{b,*}

Department of Computing, Guangdong University of Science and Technology, Dongguan, China

^aheyuanzi@gdust.edu.cn, ^bheyantao@gdust.edu.cn

*Corresponding author

Keywords: Ideological and Political Education, Quality of Talent Cultivation, Teaching Reforms, Information Management and Information Systems Major

Abstract: The integration of ideological and political education into the curriculum is a crucial strategy for fulfilling the fundamental objectives of moral education and character development. This approach serves as a novel impetus for enhancing the quality of talent cultivation and has catalyzed the advancement of teaching reforms in higher education. By examining the components of ideological and political education within each course in a major, and by achieving a seamless integration of professional courses with ideological and political education, ethnic pride, and historical mission. This, in turn, can elevate their moral standards and sense of social responsibility, thereby comprehensively improving the overall quality of talent cultivation. This paper examines the Information Management and Systems major in colleges and universities, investigating the progression from educational objectives, characteristics, construction content and ideas, to anticipated outcomes. The goal is to develop a teaching system and practice model that seamlessly integrates ideological and political education with professional knowledge education.

1. Introduction

The role of ideological and political education within the curriculum is paramount in the educational system. As a fundamental practice for moral education, it not only revitalizes higher education but also serves as a crucial catalyst for enhancing the quality of talent development^[1-2]. A thorough exploration of the elements of ideological and political education across various professional courses enables an organic integration of professional knowledge dissemination and value guidance. This approach allows students to cultivate deep-seated national sentiment, ethnic identity, and historical responsibility while mastering professional skills. This process not only solidifies the moral foundation of students but also stimulates their sense of social responsibility, thereby creating a broad pathway for the cultivation of compound talents with noble morals, solid knowledge, and innovative abilities. Consequently, this promotes the comprehensive innovation of higher education teaching and significantly improves the quality of talent development.

Given the current state of ideological and political practice within courses, numerous scholars

have offered their unique perspectives. Wu^[3] examines the integrated educational model of specialization and part-time employment in colleges and universities, specifically from the standpoint of ideological and political education based on coursework. The paper suggests that this integrated model should prioritize the profound integration of course content, fortify the development of teacher teams, innovate teaching methodologies, and enhance the evaluation system. Through a case analysis, the paper illustrates the positive impact of this model on improving students' overall quality and fostering the mutual permeation of professional knowledge and ideological and political education. Chen's^[4] research analyzes the integration of ideological and political education into digital logic circuit instruction. The study underscores that by integrating these elements, students can develop a deeper understanding of engineering ethics and social responsibility. The paper introduces several teaching strategies, such as case-based learning, project-oriented approaches, and guided discussions, to foster students' comprehension of the significance of technological advancement and societal progress while honing their professional knowledge. Li^[5] explores the utilization of machine learning in the realm of ideological and political education within the context of big data. The findings suggest that machine learning technology is capable of efficiently analyzing and processing substantial educational data, thereby facilitating the creation of personalized and precise teaching plans for ideological and political education. Through a series of case studies, the paper illustrates how machine learning can be employed to discern students' learning requirements, optimize teaching content and methodologies, and enhance overall teaching efficacy. Concurrently, the study underscores the imperative to safeguard student privacy and data security during the application of machine learning. Yang^[6] explores the integration of ideological and political education within professional economics and management courses, using the context of the Internet as a backdrop. The author posits that the advent of the Internet offers a novel platform for disseminating ideological and political content, thereby facilitating a more seamless integration of such education into professional courses. The paper suggests strategies including leveraging online resources, innovating teaching methodologies, and fostering enhanced teacher-student interaction to augment the appeal and efficacy of ideological and political education.

This paper focuses on the intersection of Information Management and Information Systems in higher education, aiming to seamlessly integrate ideological and political education into professional knowledge. The proposed educational system delineates clear educational objectives, underscores the equal significance of students' information literacy and moral character, and highlights the intertwined roles of professional attributes and societal responsibility by extracting ideological and political themes from course content. Institutional design includes a range of safeguards to ensure the effective incorporation of ideological and political education within the curriculum. Course development prioritizes the integration of theory with practice, introduces innovative teaching techniques, and fosters an enhanced sense of social responsibility and historical purpose among students while honing their professional competencies. Teacher training emphasizes the concurrent enhancement of ideological and political understanding alongside professional skills, leading to the formation of a high-caliber teaching team. The evaluation framework is multifaceted, assessing students' knowledge, abilities, and personal qualities. The quality assurance process is robust, continuously refining both teaching content and methodologies. The anticipated outcomes are substantial, aiming to nurture individuals who not only possess profound professional expertise but also uphold noble ethical values, thereby contributing to societal advancement.

2. The Educational Goals and Characteristics of Ideological and Political Courses

The Information Management and Information Systems major, guided by ideological and

political education within the curriculum, is committed to nurturing high-quality applied innovative talents. These individuals are expected to develop comprehensively in areas such as morality, intelligence, physique, aesthetics, and labor while practicing socialist core values. Students are not only required to master modern corporate management theories and basic information technology knowledge but also to acquire core skills such as planning, analysis, design, and implementation of information systems. Furthermore, they must establish a strong sense of social responsibility and correct values through the integration of ideological and political elements. In response to the information transformation needs of various countries and regions, students will serve in fields such as the Internet, mobile Internet, and big data. They will become future leaders with a high degree of information literacy, capable of keenly capturing information dynamics and effectively managing information resources. Based on solid professional skills, students will learn to apply their knowledge to solve practical problems in complex and changing environments, thereby contributing to economic and social development. Simultaneously, strengthening innovative thinking and teamwork capabilities ensures that students remain competitive in the rapidly changing information age and lead industry innovation and development.

The Information Management and Information Systems major is unique in its educational methodology, which underscores the congruence of professional instruction with occupational standards. This approach fosters synergistic collaboration between academic institutions and industry, establishing a comprehensive teaching resource library via cloud terminal laboratories and multifaceted cloud platforms. In-house educators collaborate closely with industry professionals to devise training programs that incorporate national network engineer occupational standards. The curriculum is guided by competition content, wherein enterprise engineers are invited to present real-world projects, thereby bolstering students' practical skills. Concurrently, by integrating course ideology and politics, the program nurtures students' sense of social responsibility and ethical values. Leveraging cloud platform resources augments their self-learning capabilities, culminating in an educational paradigm that seamlessly blends knowledge dissemination, skill enhancement, and quality development. Such an approach not only satisfies the demands of the information age but also cultivates high-caliber talents adept at compound application innovation.

3. Content and Approaches in the Construction of Ideological and Political Courses

The notion of "curriculum ideological and political education" permeates every course, including those on ideological and political theory. It serves not only as a conduit for knowledge transfer but also as an instrument for intellectual enlightenment and value formation. At the School of Computer Science in Guangdong University of Science and Technology, the Information Management and Information Systems major stands as a vibrant hub for knowledge innovation and talent development. This program is proactively aligning with the state's evolving expectations for college students' ideological and political education. By deeply integrating the principles of curriculum ideological and political education, it embarks on a path of educational model innovation.

We recognize that the incorporation of ideological and political education into the curriculum is not merely a superficial addition of courses on such subjects. It signifies a profound transformation in teaching methodologies, necessitating educators to reassess professional courses through fresh lenses, uncover their inherent ideological components, and restructure both the content and instructional techniques. This approach ensures that students are not only imparted with specialized knowledge but also fostered in their patriotism, societal responsibility, and adherence to professional ethics. Such an endeavor represents a profound reevaluation and reinterpretation of educational content, a return to the core essence of education rather than an additional burden for individuals.

In the ideological and political development of Information Management and Information Systems courses, we eschew the rigid incorporation of ideological and political content into professional subjects to prevent the misguided notion of "politicizing" these courses. We recognize that while ideological and political courses and professional courses each possess distinct systems and values, they should mutually respect and enhance one another. Consequently, we are dedicated to fostering an educational environment where "each course encompasses ideological politics, and every educator underscores character education", thereby ensuring that every class serves as a primary conduit for disseminating positive energy and advocating the central theme.

In this study, we will commence from various dimensions including curriculum design, teaching implementation, and evaluation system to ensure that the ideological concept of the course permeates throughout the entirety of information management and information system professional instruction. By meticulously crafting course content, employing lively and flexible teaching methodologies, and implementing scientifically sound evaluation systems, we aim to guide students in establishing accurate worldviews, life perspectives, and values. Furthermore, our goal is to cultivate them into new era youths possessing robust professional knowledge and noble moral sentiments.

3.1. Institutional Design

Constructing a course ideological and political organization system and planning mechanism. To enhance the quality of ideological and political education within courses, we have meticulously assembled teaching teams based on research directions and course attributes. This approach encourages collective lesson preparation and collaborative exploration of ideological and political elements inherent in the courses. We employ a system where team and subject leaders regularly convene for dialogue, engaging in profound exchanges concerning the integration points of ideological and political education in courses and innovative teaching methodologies. This promotes the sharing of teaching experiences and fosters intellectual synergy. Furthermore, we actively engage experts from the College of General Education in joint discussions to establish professional and course objectives for ideological and political education, as well as long-term planning. This ensures the deep integration of ideological and political education with professional education, thereby establishing a robust foundation for the comprehensive development of students.

Strengthening the construction of teaching teams and collective teaching research. To enhance the quality of ideological and political education within courses, we have meticulously assembled teaching teams based on research directions and course attributes. This approach encourages collective lesson preparation and collaborative exploration of ideological and political elements inherent in the courses. We employ a system where team and subject leaders regularly convene for dialogue, engaging in profound exchanges concerning the integration points of ideological and political education in courses and innovative teaching methodologies. This promotes the sharing of teaching experiences and fosters intellectual synergy. Furthermore, we actively engage experts from the College of General Education in joint discussions to establish professional and course objectives for ideological and political education, as well as long-term planning. This ensures the deep integration of ideological and political education with professional education, thereby establishing a robust foundation for the comprehensive development of students.

Motivate teachers to participate in ideological and political reform and research of the curriculum. To foster enthusiasm and creativity among teachers in the ideological and political education of the curriculum, we have developed strategies to support teaching and research activities, as well as funding for educational reform papers. We plan to direct funds earmarked for the development of approved characteristic majors towards the ideological and political education

of the curriculum. This will enable teachers to engage in related teaching and research activities, including the design of ideological and political education curricula, case studies, and more. Simultaneously, we will provide partial funding for page charges to teachers who have achieved significant results in the reform of ideological and political education teaching, particularly those who have published high-quality educational reform papers, such as core journal papers from Peking University. This recognition and encouragement will serve as a reward for their hard work and innovative achievements. Through these incentive measures, we aim to create a new paradigm of ideological and political reform in the curriculum, where teachers are actively involved and yield fruitful research results.

3.2. Course Development

Comprehensively deepen the curriculum ideological and political construction system. We are dedicated to augmenting the ideological and political dimensions of twelve core courses, encompassing "Introduction to Artificial Intelligence," "Unified Modeling Language," "Python Development and Data Analysis," "Principles of Operating Systems," and "Software Testing Techniques." By delving into the ideological underpinnings of each course and meticulously crafting teaching plans, we seamlessly integrate ideological education with specialized knowledge instruction. Concurrently, we employ a "cross-cutting" pedagogical approach and an innovative system of "small classes for parallel core courses" to establish a multi-dimensional and three-dimensional teaching framework. This ensures that every teacher, course, and student is imbued with the ideological essence of the curriculum. Such an approach not only enriches the course content but also subtly instills correct values in students, achieving the dual objectives of knowledge dissemination and value guidance.

Constructing a curriculum for ideological and political education resources and guidelines. To systematically advance the integration of ideological and political education within the curriculum, we have diligently compiled design plans and curated collections of exemplary teaching cases. These resources serve as reference templates, offering educators innovative strategies and fostering a culture of methodological sharing. Furthermore, we have meticulously crafted guidelines tailored for ideological and political education in information management and system courses. These guidelines offer comprehensive direction, ensuring the orderly progression and continuous enhancement of ideological and political content within the curriculum. Concurrently, we have seamlessly integrated the principles of "student-centered" learning and "knowledge imparting, value leading" from engineering certification into all course instruction. This approach underscores the central role of students in the learning process and emphasizes the development of their overall quality and sense of social responsibility.

Strengthening the summary and promotion of ideological and political achievements in courses. To consolidate the outcomes of ideological and political construction within courses, we have initiated the compilation of a series of textbooks pertinent to ideological and political education. This endeavor aims to encapsulate practical experiences, refine effective practices, and offer references for other disciplines. Concurrently, we encourage educators to actively contribute to scholarly publications on educational reform, thereby broadening the reach of ideological and political education through academic exchanges and collaborations. Furthermore, we plan to intensify publicity efforts, utilizing various media platforms to highlight the achievements and milestones of ideological and political education within courses. This initiative seeks to foster a favorable social atmosphere and promote the broader acceptance and application of the concept of ideological and political education in courses.

3.3. Teacher Training

In contemporary higher education, which is transitioning towards connotative development, teacher training serves not only as the primary catalyst for enhancing teaching quality but also as a crucial safeguard for deepening ideological and political education within courses and fostering talents with societal responsibility and commitment to the era. Consequently, we are dedicated to constructing a comprehensive and profound teacher training system that seamlessly integrates the concept of ideological and political education throughout the entire teaching process. This approach promotes the simultaneous enhancement of teachers' professional abilities and their ideological and political literacy. In particular, we conduct regular teaching and research activities on a monthly basis. These activities not only involve inviting distinguished domestic and international teaching experts to provide guidance, deliver thematic lectures, and share successful case studies of the latest teaching concepts and ideological and political education in courses, but also foster innovative thinking and teaching enthusiasm among teachers through face-to-face communication and interaction. Concurrently, to exemplify the role of excellent teachers, we have consistently scheduled 3-5 open and demonstration classes each month. This encourages teachers to explore effective strategies for ideological and political education in practice, thereby forming replicable and promotable teaching models.

In our approach to training newly recruited teachers, we introduced an innovative "1+1+1" support system. This system incorporates traditional college mentors and adds a specialized course ideological and political guidance teacher. By combining these strategies, we developed tailored training programs for new teachers. These programs not only provided meticulous instruction in teaching techniques but also offered robust support in integrating ideological and political elements into courses and innovating teaching methods. This approach helped the teachers quickly develop into key contributors to teaching and practitioners of course ideology. Additionally, we formed teaching teams or groups based on the characteristics and research directions of the disciplines. We regularly held teaching seminars centered around the goal of course ideology. Through team collaboration and intellectual exchange, teachers were able to delve deeply into the ideological elements of the courses, innovate teaching designs, achieve a seamless integration of professional knowledge imparting and value leading, and collectively promote the comprehensive enhancement of teaching quality and course ideology level.

3.4. Evaluation System

Constructing a multi-dimensional evaluation system for the quality of teaching Civics in courses. In the endeavor to enhance ideological and political education within courses, we have come to appreciate the necessity of developing a scientifically sound, comprehensive, and distinctive teaching quality evaluation system that aligns with the unique characteristics of ideological and political education. To this end, we have devised an evaluation system that encompasses primary, secondary, and tertiary indicators. This system is designed to assess course quality and its instructional outcomes from various dimensions and levels of depth. It not only emphasizes the efficacy of professional knowledge dissemination but also incorporates ideological and political elements, thereby reflecting the incorporation of ideological and political education in courses through specific indicators such as the degree of integration of ideological and political education content, the ideological orientation of teaching methods, and the enhancement of students' ideological and political qualities. Concurrently, we prioritize the operability and flexibility of the evaluation system to ensure that the evaluation process is both rigorous and efficient. This ensures that it can accurately reflect the accomplishments and shortcomings of ideological and political education in courses, providing a robust foundation for subsequent improvements.

Innovate the student learning effect evaluation system and strengthen the ideological and political practice assessment of courses. To holistically assess students' learning outcomes in ideological and political education, we have pioneered an innovative student evaluation system that deeply incorporates ideological and political elements. In our course assessments, we not only introduce specialized ideological and political topics to stimulate deep thinking and elaboration of viewpoints but also facilitate ideological and political discussions. This encourages students to express their opinions and exchange ideas, thereby providing a comprehensive examination of their ideological and political qualities and professional abilities. Furthermore, we advocate for students' active participation in social practice and volunteer activities, integrating their practical performance into the evaluation system. This approach tests students' practical abilities and sense of social responsibility under the guidance of ideological and political theory courses. Concurrently, we employ various methods such as student teaching evaluations, questionnaire surveys, and discussions to gather extensive student feedback. This enables us to fully understand students' acceptance and satisfaction with ideological and political education, providing crucial references for further optimization of teaching plans and enhancement of teaching outcomes. Through these innovative measures, we aim to construct a student evaluation system that emphasizes both knowledge transmission and value guidance, thereby facilitating the effective achievement of the goals of ideological and political education courses.

3.5. Quality Assurance

Building a system of institutional guarantees and resource support to promote the implementation of ideological and political education in courses. To ensure the comprehensive and high-quality development of ideological and political education within professional teaching, our institution has implemented a series of effective measures to establish a robust system of institutional guarantees and resource support. Initially, the college formally issued a series of policy documents concerning ideological and political education in courses. These documents clarified the goal positioning, implementation path, and evaluation standards of ideological and political education in courses, thereby providing a solid institutional foundation for its comprehensive promotion. Concurrently, the college established the "Ideological and Political Education Teaching Work Group". This group, composed of teachers with extensive teaching experience and high ideological and political literacy, is responsible for the overall planning, coordinated promotion, and effect evaluation of ideological and political education in courses. This ensures the orderly development and continuous optimization of ideological and political education work. Furthermore, the college actively integrates resources both internally and externally to provide a wealth of teaching cases, practice bases, and financial support for the implementation of ideological and political education in courses. This ensures that ideological and political education can take root, blossom, and bear fruit.

Relying on high-quality teams to create a quality assurance system for the special features of the course's Civics and Politics. The School of Computer Science, in its endeavor to advance ideological and political education within the curriculum, draws heavily from the experience of the "Software Engineering Curriculum Ideological and Political Team," funded by the Guangdong Provincial Department of Education. This team's construction achievements and successful practices are meticulously studied and summarized, leading to innovative demonstrations of ideological and political education within the curriculum that align with the characteristics of the Information Management and Information Systems major. Furthermore, the college's successful navigation of the "Bachelor's Degree Evaluation" and the selection of the "Characteristic Major" construction site have provided robust support for the implementation of "Engineering Moral

Education" and "Engineering Ethics Education." These initiatives have further strengthened the quality assurance system for ideological and political education within the curriculum.

4. Anticipated Outcomes

The anticipated outcomes of this project encompass three primary aspects: (1) A comprehensive revision of the training program and syllabus, leading to the construction of a curriculum for ideological and political education. The objective is to seamlessly integrate ideological and political elements into the Information Management and Information Systems major's training program and teaching syllabus through thorough revisions. This involves explicitly incorporating ideological and political objectives into training goals and graduation requirements, ensuring that students not only acquire professional skills but also develop correct values and social responsibility. In terms of implementation, we will carefully design the teaching objectives for each course, ensuring that the content of ideological and political education is deeply integrated with the teaching content and clearly reflected in the teaching syllabus. Concurrently, we will optimize teaching design, innovate teaching methods, and enable students to gain a profound understanding and practice of socialist core values through various forms such as case analysis, role-playing, and social practice while mastering professional knowledge. Ultimately, a closely interconnected and strongly supported curriculum for ideological and political education will be established, with its results evident in rich teaching designs, teaching cases, teaching syllabus, and course assignments, fully demonstrating the implementation effects of curriculum ideological and political education. (2) Develop a standardized teaching research mechanism to foster the profound integration of curriculum-based ideological and political education. To ensure the ongoing deepening and effective execution of the curriculum ideological and political education concept within the Information Management and Information Systems major, this project will concentrate on constructing a standardized teaching research mechanism. Our plan involves forming a grassroots curriculum ideological and political teaching research team, comprised of key teachers, and establishing collective lesson preparation and teaching research systems. We will regularly address challenging issues in teaching reform, engage in in-depth discussions, and generate valuable teaching research records and lesson observation records. Concurrently, we advocate for interdisciplinary and inter-departmental collaborative teaching research to dismantle disciplinary barriers, encourage resource sharing and experience exchange, and jointly explore innovative ideas and methods for curriculum ideological and political education. These measures not only enhance teachers' capacity to teach curriculum ideological and political education but also broaden the recognition and practice of the curriculum ideological and political education concept, thereby infusing new vitality into professional talent training. (3) Synthesize and enhance construction experiences to establish promotable benchmarks. During the project execution, we place significant emphasis on the consolidation and enhancement of curriculum ideological and political construction experiences. It is imperative for professionals and course leaders to periodically assess teaching methodologies, identify notable achievements in the implementation of curriculum ideological and political education, and compile replicable and promotable experience summaries. Building upon this foundation, we will advocate for and facilitate teachers to publicize the accomplishments and attributes of curriculum ideological and political construction through various mediums, including paper publications, MOOC productions, and submissions for provincial-level ideological topic applications. In particular, aligning with the unique characteristics of the Information Management and Information Systems major, we aim to cultivate a curriculum ideological and political brand imbued with professional nuances. This endeavor seeks to offer valuable insights for analogous majors and collaboratively advance the profound development of curriculum ideological and political initiatives in higher education.

5. Conclusions

This paper investigates the integration and practical application of ideological and political education within the curriculum for information management and information systems majors, highlighting its pivotal role in talent development. Through a comprehensive approach that encompasses institutional infrastructure, curriculum design, faculty training, and evaluation system innovation, this study demonstrates how ideological and political education seamlessly merges with professional knowledge to foster students' holistic growth. The research underscores crucial strategies such as establishing an organizational framework for ideological and political education in the curriculum, enhancing teaching team capabilities, encouraging faculty engagement in reform initiatives, and pioneering innovative evaluation mechanisms to guarantee the effective execution of ideological and political education within the curriculum. Anticipated outcomes encompass the refinement of training programs, the establishment of teaching and research paradigms, the accumulation of construction experiences, and the pursuit of a promotable model for ideological and political education in higher education curricula. This paper offers both practical guidance and theoretical backing for the profound implementation of ideological and political education in higher education curricula, a move of paramount importance for nurturing high-caliber talents imbued with social responsibility and innovative prowess.

Acknowledgements

This work is supported by the Model Major for Ideological and Political Education in Curriculum Project of Guangdong University of Science and Technology under Grant GKZLGC2021250.

References

- [1] LI J, GAO L, MENG T, et al. *The Integration of Red Culture Into the Comprehensive Ideological and Political Course for Graduate Students: A Study on Its Connotation, Logic, and Pathway*[J]. *US-China Education Review*, 2024, 14(6): 347-355.
- [2] Cai P. *Practice and Exploration of Class Adviser Studios in Higher Vocational Colleges from the Perspective of Holistic Education* [J]. *Journal of Education and Educational Research*, 2024, 7(3): 151-154.
- [3] Wu J, Wang X. *Research on the Mode of Specialized and Integrated Education in Colleges and Universities Based on the Perspective of Curriculum Ideology and Politics*[J]. *International Journal of Education and Humanities*, 2022, 3(1): 66-69.
- [4] Chen B, Pan X. *Practice and exploration of integrating curriculum ideology and politics into digital logic circuit course* [J]. *Open Journal of Social Sciences*, 2022, 10(4): 23-30.
- [5] Li Y, Mao H. *Study on machine learning applications in ideological and political education under the background of big data* [J]. *Scientific Programming*, 2022, 2022(1): 3317876.
- [6] Yang S, Duan X, Gao X. *A Study on the Path of Ideological and Political Education in Professional under the Background of Internet—Taking the Applied Economics and Management Specialty Curriculum as an Example*[J]. *E3S Web of Conferences*, 2021,(236): 05042.