

Research on the Path of Implementing the Fundamental Task of Cultivating Virtue in Colleges and Universities Under the Background of Industry-Education Integration

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Abstract: In the context of industry-education integration, universities face new opportunities and challenges in fulfilling their fundamental mission of cultivating virtue and talent. This article examines the current status and issues of moral education in higher education institutions within the context of industry-education integration. It explores ways to implement the core task of cultivating virtue and talent from various dimensions, including curriculum design, faculty development, and practical teaching. The aim is to provide theoretical and practical guidance for universities to better cultivate high-quality talents with both moral integrity and professional skills under the backdrop of industry-education integration. Through specific case studies, the article thoroughly analyzes the integration of moral education elements during the process of industry-education integration, meticulously categorizes evaluation mechanisms and safeguard measures, and enhances the practical and operational aspects of the research.

Keywords: Integration of industry and education; Colleges and universities; Cultivating virtue and fostering people; Fundamental task; Path; Moral education evaluation; Guarantee mechanism

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1. Introduction

The integration of industry and education is a crucial measure to promote the coordinated development of education and industry, which has profound implications for the innovation of talent cultivation models in higher education institutions. As the core mission of higher education, moral and character education, within the context of industry-education integration, must be deeply integrated with industrial needs and practical teaching to cultivate well-rounded talents with strong professional skills and good moral qualities. Currently, higher education institutions face challenges such as insufficient depth of industry-education integration and a lack of close integration between moral and professional education when carrying out the fundamental task

of moral and character education. Finding effective paths for higher education institutions to achieve the fundamental task of moral and character education under the framework of industry-education integration is of critical practical significance for enhancing the quality of talent cultivation. This article will adopt methods such as supplementing typical case analysis, detailing path measures, and strengthening guarantee mechanisms to further expand the scope of research content, providing more targeted guidance for higher education practice.

2. The connotation and relationship between industry-education integration and moral education in colleges and universities

2.1. The connotation and characteristics of industry-education integration

The integration of industry and education refers to the deep integration of industry and education. By integrating industrial and educational resources, it aims to achieve a precise alignment between talent development and industry needs. This integration is characterized by resource sharing, complementary strengths, and coordinated development. It emphasizes the deep collaboration between schools and enterprises in areas such as talent cultivation, scientific research, and technological innovation. Huawei Company has partnered with Shenzhen Polytechnic to establish the ‘Huawei Information and Network Technology College.’ Through joint course development, mutual faculty borrowing, and shared practical training bases, this collaboration has facilitated the organic connection between the education chain, talent chain, and industrial chain, demonstrating the attributes of resource sharing and coordinated development under the integration of industry and education.

2.2. The connotation and requirements of cultivating virtue in colleges and universities

The core mission of higher education is to cultivate virtue and nurture talent. This means fostering individuals who are both morally upright and professionally competent, intending to become well-rounded builders and successors of socialism. Higher education institutions should not only impart professional knowledge and skills but also focus on enhancing students’ moral character, social responsibility, and innovative capabilities. This involves instilling a proper worldview, outlook on life, and values, cultivating noble professional ethics, social morals, and family virtues, and fostering a strong sense of social responsibility to serve the country and its people.

2.3. The relationship between industry-education integration and moral education

The integration of industry and education has created a new platform and vehicle for universities to fulfill their mission of cultivating virtue and nurturing talent. By collaborating deeply with enterprises, universities can incorporate elements such as industrial culture and professional ethics into the talent development process, thereby enhancing the practical effectiveness of moral education. For instance, Zhejiang Mechanical and Electrical Vocational College and Geely Holding Group have collaborated to introduce elements like the ‘craftsman spirit’ cultural wall and enterprise model worker studios into the construction of practical training bases. This allows students to experience professional ethics and responsibilities through hands-on practice. Cultivating virtue and nurturing talent provides valuable guidance for the integration of industry and education, ensuring that this integration progresses steadily in the right direction, producing high-quality talents that meet societal needs. The two aspects mutually reinforce each other, collectively contributing to the

achievement of universities' talent development goals ^[1].

3. The current situation and problems of colleges and universities implementing the fundamental task of cultivating virtue

3.1. The integration of industry and education is not deep enough, and insufficient integration of moral education

Some universities and enterprises collaborate superficially, with low enthusiasm from enterprises in talent cultivation. Universities struggle to effectively integrate corporate moral education resources, leading to a disconnect between moral education and industry needs. For instance, a local undergraduate institution collaborates with local manufacturing companies, but this collaboration is limited to short-term internships for students. Enterprises do not participate in curriculum design or the formulation of moral education goals, making it difficult for students to fully understand the professional ethics and social responsibilities behind the industry. The current status of moral education resource integration in universities is shown in the **Table 1**.

Table 1. Current status of moral education resource integration in universities

Cooperation level	Incorporate	The effect of integrating and developing moral resources
Surface cooperation	Short-term internship, lecture	Corporate moral education resources are not effectively integrated into teaching
Shallow cooperation	Order batch, Training base	Some corporate culture permeates, lack of systematic moral education design
Deep cooperation	Industry college, School-enterprise co-built courses	Corporate ethics, Culture is fully integrated

3.2. The curriculum system is not reasonable, and moral education is out of touch with professional education

In the university curriculum, moral education courses are disconnected from professional courses. The moral elements in professional courses are not adequately explored, failing to fully leverage their educational value, which results in an imbalance between students' moral development and their professional skills. For example, computer science courses do not incorporate moral education topics such as data security ethics and intellectual property protection, leading students to master technical skills but overlook ethical boundaries. The disconnection between moral education and professional education in the curriculum is illustrated in **Table 2**.

Table 2. Disconnection between moral education and professional education in the curriculum

The type of course	Moral education is integrated into the current situation	Existing problem
Public moral education class	The theory is taught mainly, case is old	Insufficient integration with professional practice
Professional foundation courses	Focus on knowledge transmission, there is little moral education	The moral connotation of unexplored professions is not explored
Core professional courses	Emphasize technical skills, disregard ethics	Lack of professional ethics guidance

3.3. The construction of teachers' team lags behind, and the lack of double-qualified teachers

Given the integration of industry and education, universities need dual-qualified teachers who possess both

solid professional knowledge and rich practical experience. Currently, the proportion of such teachers in university faculty is relatively low, and many teachers lack practical experience in enterprises, making it challenging for them to effectively integrate industry-related moral education into their teaching activities. In a provincial university, only 12% of engineering teachers have more than three years of enterprise work experience, and most teachers lack firsthand industry experience, which makes it difficult for them to vividly explain professional ethics cases in class.

3.4. The practice teaching link is weak, and the effect of moral education practice is not good

Practical teaching is a crucial component of the integration of industry and education. However, practical teaching in universities often suffers from a lack of diversity and superficial engagement. During the practical phase, students often lack a deep understanding of social responsibility and professional ethics, leading to suboptimal moral education outcomes. For instance, in the logistics management program at a university, students were only involved in basic sorting tasks during their enterprise internships. The mentors did not provide moral guidance on environmental responsibility and customer privacy protection during supply chain optimization, resulting in the moral value of practical teaching being underutilized.

4. Exploration of the path for colleges and universities to implement the fundamental task of cultivating people's morality

4.1. Deepen the integration of industry and education, and integrate moral education resources

4.1.1. Establish a platform for integrating industry and education

Universities should build long-term, stable partnerships with enterprises to jointly create platforms for integrating industry and education, such as industrial colleges and co-built bases. These platforms can integrate the moral resources of enterprises, including their cultural heritage, spirit, and professional ethics, ensuring these values are integrated throughout the entire talent development process. For example, Changzhou Institute of Information Technology has partnered with Alibaba to establish the “Alibaba Digital Trade College,” which includes an “Enterprise Values Experience Hall” within the college. Through methods like scenario simulations and case studies, students can better understand the core values of enterprise integrity and collaboration ^[2].

4.1.2. Innovative integration of industry and education

Exploring the ‘Dual-Element’ model, Wuhan Vocational and Technical College invites enterprises to participate in the planning of talent development programs, course design, and teaching evaluations. Enterprise mentors enter classrooms to share real-life moral education examples from their companies, enhancing students’ professional identity and social responsibility. For the Automotive Inspection and Maintenance program, the college has implemented an ‘Enterprise Mentor on Campus’ system, inviting technical experts from enterprises to deliver ‘Moral Education in the Workshop’ sessions each month. These sessions use real automotive repair cases to explain key aspects of professional ethics, such as quality, responsibility and customer service.

4.2. Optimize the curriculum system and realize the integration of moral education and professional education

4.2.1. Develop a curriculum system that integrates moral education with professional education

Universities should reassess their current curriculum systems, integrating moral education throughout the teaching of professional courses. The curriculum outlines should clearly define moral education goals and analyze the moral content in professional courses, such as scientific spirit, innovation, and craftsmanship. This approach ensures a close integration of knowledge transmission and value guidance. For example, in the ‘Structural Mechanics’ course, the case of a bridge collapse can be used to explain the safety responsibilities of engineers and the importance of a rigorous research attitude. In the ‘Building Materials’ course, environmental awareness and innovative vitality in green building materials research can be integrated ^[3].

4.2.2. Developing industry-education integration courses

By integrating industry needs with the unique characteristics of specific majors, we launch industry-education integration courses. For example, we invite corporate experts to collaborate with university faculty to develop textbooks that incorporate the latest industry trends, cutting-edge technologies, and moral education requirements into the curriculum. This approach aims to enhance students’ professional skills and ethical standards. Shenzhen Institute of Information Technology and Tencent have collaborated on the course “Cybersecurity Ethics and Regulations,” which includes real-world examples from Tencent’s security team addressing cybersecurity incidents. The textbook not only covers technical skills but also emphasizes the social responsibility of cybersecurity professionals.

4.3. Strengthen the construction of teachers and train double-qualified teachers

4.3.1. Enhance the training mechanism for dual-qualified teachers

Universities should develop a training plan for dual-qualified teachers, guiding them to engage in practical learning and participate in enterprise project development. They should establish an evaluation system for teachers’ enterprise practice, making enterprise experience a key criterion for title evaluation and performance assessment. Jiangsu Construction Vocational and Technical College has set a requirement that professional course teachers must accumulate at least 6 months of enterprise practice over five years and submit a practical report, including the development of moral education cases, as a prerequisite for promotion to associate professor ^[4].

4.3.2. Introducing enterprise talents as part-time teachers

Universities recruit experienced professionals with strong ethical standards from the industry to serve as part-time teachers, enhancing the faculty. These part-time teachers participate in classroom teaching and practical guidance, sharing the company’s moral education philosophy and practical experience with students. For instance, the School of Rail Transit at Shanghai University of Engineering Science has appointed a national model worker from Shanghai Shentong Metro Group as a part-time professor. In the course “Urban Rail Transit Operation Management,” this part-time professor shares his decision-making process during emergencies, thereby enhancing students’ sense of responsibility and commitment.

4.4. Strengthen practical teaching and improve the effect of moral education practice

4.4.1. Enhance moral education guidance in internships and practical training

During the internship and practical training phases, universities should collaborate with enterprises to set moral

education goals and evaluation standards. Enterprise mentors should focus on cultivating students' professional ethics, teamwork, and social responsibility while guiding them through their professional practices. Mercedes-Benz Automotive Co., Ltd. has partnered with Beijing Electronic Science and Technology Vocational College to implement a 'dual mentor moral education evaluation system' during the on-the-job internship phase. University mentors focus on students' professional development, while enterprise mentors evaluate students based on their work attitude, sense of responsibility, and compliance with regulations. The evaluation results are incorporated into the students' internship grades ^[5].

4.4.2. Conducting moral education practice activities that integrate industry and education

Organize students to participate in moral education practice activities that integrate industry and education, such as enterprise visits, volunteer services, and innovation and entrepreneurship competitions. Through these activities, students gain a deeper understanding of industry development, enhance their sense of social responsibility and innovative thinking, and improve the effectiveness of moral education practices. Zhejiang Financial Vocational College has launched the 'Fintech Ethics Innovation Competition,' which requires students to analyze the application of blockchain technology in the financial sector, address ethical issues such as privacy protection and data security, and propose solutions. This competition aims to strengthen students' awareness of technological ethics and their sense of social mission.

4.5. Innovate the evaluation mechanism to ensure the effectiveness of cultivating people with moral character

4.5.1. Establishing a moral education evaluation system that integrates industry and education

Develop a moral education evaluation system involving universities, enterprises, and society. This system evaluates students' moral development across multiple dimensions, including moral cognition, emotional attitude, and behavioral performance. A 'three-dimensional evaluation index' can be specifically designed: the moral cognition dimension assesses the level of mastery of professional ethics; the emotional attitude dimension evaluates feelings such as professional identity and social responsibility; the behavioral performance dimension evaluates behaviors such as compliance in practice and teamwork. In the moral education evaluation process of a higher vocational college's intelligent manufacturing program, 40% of the evaluation team consists of enterprise representatives. The evaluation uses methods such as simulated project acceptance and workplace scenario tests to comprehensively assess the level of students' moral development ^[6].

3.5.2. Enhance the evaluation mechanism for teachers' moral education

Integrate the effectiveness of teachers' moral education during industry-education integration into the evaluation system. This includes the integration of moral education elements into courses and the outcomes of moral guidance in practical teaching. This approach encourages teachers to actively engage in moral education. Evaluation indicators may include: the quality and quantity of moral education case studies in professional courses, the results of collecting moral education materials in enterprise practice, and the overall effectiveness of guiding students' moral education activities. Shandong Business Vocational and Technical College links performance bonuses to teachers' moral education achievements. Teachers who develop outstanding industry-education integration moral education courses will receive special rewards and be prioritized for excellence awards.

5. Guarantee measures for colleges and universities to implement the fundamental task of cultivating people's morality

5.1. Policy and institutional guarantee

To enhance the policy framework for integrating industry and education, the government should issue supportive documents that clearly define the rights and responsibilities of universities and enterprises. By offering incentives such as tax breaks and financial subsidies, the government can boost enterprises' enthusiasm for participating in industry-education integration projects. For instance, Guangdong Province stipulates that if enterprises participate in these projects, they can apply for a 30% fiscal subsidy on their actual expenses and enjoy VAT reductions, effectively motivating enterprises to integrate moral education resources. Simultaneously, universities should establish an evaluation system to assess the implementation of moral education, incorporating the moral education outcomes in the context of industry-education integration into the university assessment system. For example, the Ministry of Education has added an indicator on 'the effectiveness of moral education in the context of industry-education integration' to the undergraduate teaching evaluation, with a weight of 15 percentage points, to encourage universities to prioritize such initiatives^[7].

5.2. Organizational mechanism guarantee

Universities should establish a leadership team led by school leaders, with departments such as the Academic Affairs Office and the Student Affairs Office involved in the industry-education integration and moral education work leadership group. This group should oversee the planning of moral education and supervise the implementation of projects. For example, the leadership group of Nanjing Institute of Technology and Industry holds monthly joint meetings, inviting enterprise representatives to address bottlenecks in moral education. Additionally, a mechanism for school-enterprise collaborative education is established, using platforms like joint meetings and the 'School-Enterprise Moral Education Coordination Office' for regular communication and coordination, ensuring the continuous and effective conduct of moral education. For instance, Tianjin Vocational University and Hailan Group have established a 'biweekly communication meeting' to timely address students' moral education performance and update course cases simultaneously.

5.3. Resource input guarantee

Universities should further increase their investment in integrating industry and education resources for talent development, preparing special funds to support the construction of talent development platforms and teacher training. For example, Hangzhou Vocational and Technical College allocates 5% of its tuition fees annually as special funds, accumulating a total investment of 12 million yuan over three years to establish eight moral education training bases. They also integrate social resources from industry associations and research institutions, collaborating to join the moral education efforts. For instance, the China Vocational and Technical Education Society, in collaboration with industry associations, has released the 'Guidelines for Moral Education Work in Higher Vocational Colleges under the Background of Industry-Education Integration,' guiding resource integration.

5.4. Cultural environment guarantee

Universities should foster a campus culture that integrates industry and education, using methods such as corporate lectures and 'industry-education integration cultural corridors' to showcase industrial culture. For instance, Chongqing Industrial Vocational and Technical College has established an 'industrial culture

museum,' which introduces corporate innovation and craftsmanship. Additionally, universities should actively integrate their cultures with those of enterprises through initiatives like 'Enterprise-Campus Cultural Integration Month,' bringing corporate elements into the campus. For example, Suzhou Industrial Park Vocational and Technical College collaborated with Samsung Electronics to name laboratories and roads based on corporate values, thereby creating a moral education cultural context ^[8].

6. Conclusion

Given the current context of industry-education integration, universities' commitment to the fundamental task of cultivating virtue and talent is a comprehensive endeavor that requires collaboration among the government, universities, enterprises, and all sectors of society. This involves deepening industry-education integration, optimizing curriculum planning, strengthening faculty development, enhancing practical teaching, and innovating evaluation systems. Along with improving policies, organizational mechanisms, and resource allocation, universities can more effectively fulfill their core mission of cultivating virtue and talent, fostering high-quality individuals who excel in moral and professional skills. This will inject greater momentum into the nation's and society's development. As industry-education integration continues to deepen, universities must continuously innovate their methods and approaches to cultivate virtue and talent, aligning with the new standards set by industrial changes for talent development. This will enable moral education to flourish on the fertile ground of industry-education integration, laying a solid foundation for nurturing new generations capable of shouldering the great responsibility of national rejuvenation.

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