

# In the Context of Industry-Education Integration, the Collaborative Cultivation of Higher Vocational College Students' Professionalism and Ideological and Political Education

Xiaoyi Yang\*, Mingjuan Wang, Jing Peng, Yi Zhou, Haiyan Yu, Chang Li

Sichuan Vocational and Technical College, Suining, 629000, China

\*Corresponding author: lilyyang8115@163.com

**Abstract:** The integration of industry and education restructures the intrinsic relationships among knowledge production, skill transmission, and value shaping in the field of higher vocational education, and thus it poses new requirements for the integration of professionalism and ideological and political education. This study focuses on the issue of collaborative cultivation of the two. It clarifies their intrinsic connections and collaborative logic at the theoretical level. It constructs a mechanism framework featuring the bidirectional embedding of goals, the integrated structure of content, and the collaborative synergy of subjects. It explores the integration paths through the cross-penetration of curriculum carriers, the implicit indoctrination of cultural carriers, and the institutional guarantee of management carriers. Furthermore, it builds an ecosystem architecture for collaborative cultivation, a dynamic adaptation mechanism, and a multi-dimensional scrutiny system. The research shows that there exists an intrinsic coupling relationship between professionalism and ideological and political education. The collaboration between the two requires the integration of elements through goal alignment, content integration, and subject synergy. It relies on the coordinated operation of multiple carriers to optimize implementation paths. It forms an overall pattern of mutual support and dynamic adaptation of all elements at the systemic ecology level, and thus it drives a closed-loop mechanism of continuous improvement through multi-dimensional scrutiny.

**Keywords:** industry-education integration; professionalism; ideological and political education; collaborative cultivation; education mechanism

## Introduction

Industry-education integration drives a fundamental transformation in the form of higher vocational education: the educational space extends to industrial contexts, the educational subjects shift toward a multi-agent collaborative network, and the educational goal expands to the systematic cultivation of comprehensive competence. Against this background, the cultivation of professionalism and ideological and political education traditionally belong to different pathways: the former focuses on the internalization of professional norms and the accumulation of skills, while the latter concentrates on the construction of value cognition and the nurturing of the spirit. From the perspective of the essence of education, the development of vocational competence requires guidance from value cognition, and the deepening of value concepts likewise requires embodied recognition in vocational contexts; thus the two functions complement each other. The restructuring of educational elements triggered by industry-education integration requires the education system to break through fragmented divisions and achieve an organic integration of the two. This study systematically explores the intrinsic mechanism and implementation framework of collaborative cultivation from four levels: theoretical foundation, mechanism construction, carrier integration, and ecological evaluation.

## 1. Theoretical Basis and Logical Starting Point of Collaborative Cultivation

### 1.1 The Transformation Characteristics of Educational Forms from the Perspective of Industry-Education Integration

As a profound transformation of the organizational form of education, industry-education

integration restructures the intrinsic relationships among knowledge production, skill transmission, and value shaping in the field of higher vocational education. From this perspective, the educational space extends from a closed campus field to a composite field that integrates industrial contexts. The educational subjects shift from a single professional education implementer to a networked structure of multi-agent collaborative participation. The logic of resource allocation in education also gradually transforms from a discipline-oriented model to a parallel model that combines competence orientation and literacy orientation. This transformation means that vocational education is no longer confined to a narrow understanding of skill training; instead, it presents a composite feature characterized by the mutual permeation of educational contexts and industrial contexts and the simultaneous progress of knowledge acquisition and role identification. The openness of the educational process, the authenticity of the educational context, and the integration of educational goals become prominent manifestations of this morphological transformation, and they provide a foundational condition different from the traditional education model for the cultivation of higher vocational students' comprehensive competence. The restructuring of educational elements and the reengineering of educational processes triggered by industry-education integration objectively require the education system to make corresponding adjustments in its functional positioning and operational mechanism, so as to adapt to the new requirements brought about by the transformation of educational forms.

### ***1.2 The Connotative Structure of Professionalism and Ideological and Political Education and Their Correlation***

As a core dimension of higher vocational college students' competence structure, professionalism encompasses three levels: the internalization of professional norms, the formation of professional awareness, and the accumulation of professional development abilities. It thus reflects the comprehensive qualities that practitioners should possess in a specific professional field. Ideological and political education focuses on the construction of learners' value cognition framework and the cultivation of their spiritual world. Through value guidance and meaning endowment, it shapes the cognitive framework by which individuals understand the world, interpret society, and position themselves. The two exhibit multi-dimensional correlations in their connotative structures: from the perspective of value orientation, the sense of responsibility and the quality of integrity within professionalism are intrinsically consistent with the value pursuits advocated by ideological and political education; from the perspective of content composition, professional ethics education constitutes an overlapping area where the cultivation of professionalism and ideological and political education converge; from the perspective of educational function, professionalism emphasizes the adaptive development of individuals in the vocational field, whereas ideological and political education focuses on the value positioning of individuals as social members. The two thus complement each other in promoting the comprehensive development of individuals. This intrinsic correlation provides a logical premise for the two to move from separate implementation toward collaborative integration<sup>[1]</sup>.

### ***1.3 The Value Logic and Normative Direction of Collaborative Cultivation***

The value logic of collaborative cultivation is established on the dual foundations of the integration of educational effectiveness and the optimized allocation of educational resources. From the perspective of educational effectiveness, the cultivation of professionalism and ideological and political education share an intrinsic relationship of mutual support and mutual conditionality in their implementation process: the development of vocational competence requires guidance from value cognition, and the deepening of value cognition likewise requires embodied recognition in authentic vocational contexts. The educational benefits generated by the collaborative operation of the two far exceed the simple sum of the benefits obtained from their separate implementation. From the perspective of resource allocation, higher vocational education faces objective constraints in both the academic cycle and educational resources; collaborative cultivation can avoid the scattered investment and redundant construction of educational resources, and it can enhance the overall efficiency of educational input. The normative direction of collaborative cultivation lies in constructing an educational pattern that deeply integrates professionalism with ideological and political education. This pattern enables students to simultaneously accomplish the deepening of value cognition during the process of vocational competence development and to simultaneously obtain the identification of their professional role during the internalization of value concepts. Ultimately, it achieves the unity of the dual identity of a professional person and a social person within the same cultivation process.

## **2. Mechanism Construction and Element Integration for Collaborative Cultivation**

### ***2.1 The Bidirectional Embedding Model of Educational Goals***

The bidirectional embedding model of educational goals refers to the organic integration of the cultivation goals of professionalism and the goals of ideological and political education at the level of goal setting. In this model, the goal system of professionalism is endowed with the connotative dimension of value guidance, so that the internalization of professional norms, the formation of professional awareness, and the accumulation of professional development abilities all carry the function of value shaping. Correspondingly, the goal system of ideological and political education is also embedded with the specific requirements of the professional dimension, so that the deepening of value cognition obtains a concrete expressive carrier in the vocational context. Bidirectional embedding is not a simple superposition of goals; instead, through the interactive mapping of goal elements, it forms a goal network with distinct levels and mutual foundations. In this network, the basic level focuses on the integration of professional norms and basic value identification, the developmental level points to the collaborative enhancement of professional ethics and value judgment ability, and the advanced level concerns the unification of professional ideals and value pursuits. This embedded goal structure enables educational activities to achieve the organic integration of the two types of educational goals at the very starting point, and it provides directional guidance for the subsequent selection of educational content and the determination of educational methods.

### ***2.2 The Integrated Architecture of Educational Content***

The integrated architecture of educational content aims to break down the barriers that traditionally separate the content of professionalism cultivation from that of ideological and political education, and it builds a content system in which the two permeate and support each other. This architecture takes professional ethics, craftsmanship spirit, and professional norms—areas that possess both professional attributes and value implications—as the integrating hubs, and it organically integrates the competence elements within professionalism content with the value elements within ideological and political education content. In terms of specific architectural methods, the integrated architecture adopts a design approach that combines modularization and hierarchization: modularization is reflected in the decomposition of the two types of content into combinable knowledge units and competence units, which can be flexibly configured according to the characteristics of different professional fields; hierarchization is reflected in the construction of a progressive sequence of content from basic cognition to deep internalization, following the laws of students' cognitive development. Through this integrated architecture, professionalism content gains support from value depth and thus avoids the narrowing predicament of instrumental rationality; ideological and political education content gains the support of vocational contexts and thus avoids floating as superficial transmission through abstract preaching. The two thus form an organic whole of mutual construction and symbiosis at the content level.

### ***2.3 The Collaborative Linkage Mechanism of Educational Subjects***

The collaborative linkage mechanism of educational subjects aims to establish a division of labor and cooperative relationship between professional educators and humanities and social sciences educators, and it forms an educational pattern featuring the joint participation of multiple subjects and complementary functions. In this mechanism, professional teachers undertake the dual functions of cultivating vocational competence and guiding values within vocational contexts, and they simultaneously accomplish the infiltration of professional ethics and the transmission of professional norms in the process of professional teaching. Humanities and social sciences teachers, on the other hand, focus on the systematic construction of a value cognition framework and the deep cultivation of ideological literacy, and they provide the value foundation for the development of professionalism. Through regular communication and coordination mechanisms, the two types of subjects achieve information exchange and strategic collaboration, including the alignment of teaching content, the sharing and integration of educational resources, and the simultaneous advancement of the educational process. The collaborative linkage mechanism also extends to industrial personnel in the context of industry-education integration, enabling them to undertake corresponding educational functions in the process of participation, and thus forming a synergy between institutional subjects and industrial subjects in terms of educational functions. Through this mechanism, educational subjects move from dispersion to integration, and educational forces move from fragmentation to collaboration, which

provides an organizational guarantee for the collaborative cultivation of professionalism and ideological and political education<sup>[2]</sup>.

### **3. Carrier Integration and Path Optimization for Collaborative Cultivation**

#### ***3.1 The Cross-Penetration Design of Curriculum Carriers***

As the core implementation medium for collaborative cultivation, curriculum carriers adopt a cross-penetration design that aims to break down the boundaries between professional courses and general education courses in terms of educational functions, and it constructs a curriculum implementation architecture that organically unifies vocational competence training and value cultivation. At the level of curriculum structure, the cross-penetration design is reflected in the embedding of content elements with both professional attributes and value implications—such as professional ethics, industry norms, and professional identity—into the professional course system, so that students can simultaneously understand the value connotations of their professional roles while mastering professional skills. At the same time, it integrates typical cases from vocational contexts and value issues in industry development into the teaching of general education courses, so that the acquisition of value cognition has the support of authentic vocational fields. At the level of curriculum implementation, the cross-penetration design focuses on the adaptive adjustment of teaching methods. It adopts contextualized teaching, project-based learning, and other approaches, so that professionalism elements and ideological and political elements are simultaneously transmitted in the same teaching process. Through this cross-penetration, curriculum carriers no longer bear a single type of educational function; instead, they become a compound educational platform where the two types of educational content intermingle and support each other. The curriculum implementation process also expands from the one-dimensional process of knowledge transmission to a multi-dimensional process that runs parallel to competence development and value guidance.

#### ***3.2 The Implicit Educational Function of Cultural Carriers***

Cultural carriers exert their implicit educational function through environmental immersion and atmosphere creation, and they constitute a deep support for the development of professionalism and the internalization of values in collaborative cultivation. In the context of industry-education integration, the constituent elements of cultural carriers include not only the academic traditions, humanistic spirit, and behavioral norms embedded in campus culture but also the professional spirit, quality awareness, and collaborative concepts carried by industrial culture. The intersection and integration of the two cultural forms in the educational field form a composite cultural environment that possesses both educational implications and professional orientation. Through symbolic representations, ritual activities, and behavioral modeling, this cultural environment exerts an imperceptible influence on students: the integration of professional culture enables students to perceive and identify with the value pursuits and behavioral norms of a specific professional field, while the cultivation of campus culture provides students with free space for value reflection and spiritual growth. The exertion of the implicit educational function depends on the systematic construction and orderly operation of cultural carriers, including the implantation of educational implications into cultural landscapes at the material level, the design of guiding functions for cultural norms at the institutional level, and the construction of cultivation mechanisms for cultural identity at the spiritual level. These efforts enable cultural carriers to form a sustained, stable, and permeating educational effect beyond explicit education<sup>[3]</sup>.

#### ***3.3 The Institutional Guarantee and Guiding Function of Management Carriers***

Management carriers exert their guarantee and guiding functions through institutional arrangements and operational mechanisms, and they provide standardized and normalized operational support for collaborative cultivation. At the level of institutional design, management carriers cover multiple dimensions, including student evaluation systems, teaching management systems, and quality monitoring systems. Through the clear stipulation of institutional provisions and the reasonable design of procedural arrangements, they transform the requirements of collaborative cultivation into executable and verifiable operational norms. The construction of the student evaluation system focuses on establishing a comprehensive evaluation index that covers both the level of vocational competence development and the degree of value cognition deepening, and it breaks the evaluation limitation that merely takes knowledge mastery or skill proficiency as the standard. The improvement of the teaching

management system strives to provide institutional channels and resource guarantees for the cross-penetration of curricula and the collaborative linkage of subjects, and it removes the institutional obstacles that collaborative cultivation may encounter during its operation. The establishment of the quality monitoring system focuses on the dynamic monitoring of the collaborative cultivation process and the feedback of its effects, and it forms a closed-loop management process of information collection, analysis and diagnosis, and improvement and adjustment. Through the institutional arrangements of management carriers, collaborative cultivation transforms from conceptual advocacy to institutional regulation, and it moves from spontaneous exploration to standardized operation, thus forming a sustainably advancing institutional guarantee mechanism.

#### **4. Ecological Construction and Quality Evaluation of Collaborative Cultivation**

##### ***4.1 The Ecosystem Architecture of Collaborative Cultivation***

The ecosystem architecture of collaborative cultivation is established on the basis of incorporating the synergy between professionalism and ideological and political education into a holistic and systematic analytical framework, and it reveals the organic connections and interactions among the various educational elements. This ecosystem takes the educational goals as its orientation, educational content as its core, educational subjects as its driving force, and curricula, culture, and management as its carrier support, thus forming a multi-level and multi-dimensional networked structure of interconnections. At the level of system composition, the ecosystem covers a goal subsystem, a content subsystem, a subject subsystem, and a carrier subsystem. Through information transmission, resource exchange, and functional coupling, these subsystems form an organic whole for integrated operation. The goal subsystem provides directional guidance for the other subsystems, the content subsystem carries the specific educational elements, the subject subsystem drives the implementation of educational activities, and the carrier subsystem provides channels and media for the transmission of educational elements. At the level of system operation, the ecosystem exhibits the characteristics of openness and dynamism: it maintains the exchange of information and resources with the external environment, and it performs self-regulation and optimization according to the feedback information during system operation. Through this ecosystem architecture, collaborative cultivation is no longer a mechanical combination of various educational elements; instead, it forms an organic whole with inherent vitality and self-regulation capability, and it provides a systematic theoretical framework for the continuous optimization of educational activities<sup>[4]</sup>.

##### ***4.2 The Dynamic Adaptation Mechanism of the Educational Process***

The dynamic adaptation mechanism of the educational process focuses on the matching relationship between the supply of collaborative cultivation and the developmental needs of students, and it emphasizes the flexibility and precision of adjusting educational strategies according to individual differences among students and the characteristics of their developmental stages. This mechanism is established on the basis of the regularity of students' developmental stages. Students in different grades exhibit significant differences in their level of professional cognition, maturity of value concepts, and self-management ability, and accordingly, their focal points of demand for collaborative cultivation and their modes of acceptance also vary. The lower-grade stage focuses on the basic cognition of professional norms and the establishment of fundamental value identification, and the educational process emphasizes guidance and immersion. The middle-grade stage focuses on the in-depth understanding of professional ethics and the cultivation of value judgment ability, and the educational process stresses analysis and internalization. The upper-grade stage focuses on the formation of professional ideals and the integration of value pursuits, and the educational process highlights reflection and construction. The dynamic adaptation mechanism also covers adaptation at the level of individual differences: through the collection and analysis of student development information, it identifies the different developmental states of students in terms of professionalism and value cognition, and it adopts differentiated educational intervention strategies. The operation of the adaptation mechanism depends on the unimpeded flow of information feedback channels and the sensitivity of the adjustment mechanism, and it forms a virtuous cycle of continuous matching and dynamic adjustment between educational supply and student needs, thus enabling collaborative cultivation to maintain a high degree of responsiveness to the developmental state of educational subjects throughout its operation<sup>[5]</sup>.

### 4.3 Multi-Dimensional Scrutiny of Collaborative Cultivation Quality

The multi-dimensional scrutiny of collaborative cultivation quality aims to break through the limitation of single-dimensional quality evaluation, and it constructs a comprehensive quality scrutiny framework that covers multiple perspectives and multiple indicators. This framework conducts a systematic scrutiny of collaborative cultivation quality from three dimensions: the goal attainment dimension focuses on the degree of integrated realization of the cultivation goals of professionalism and ideological and political education, and it examines whether the two form synergistic effects rather than canceling each other out at the level of educational outcomes; the process operation dimension concerns the coordination and effectiveness of various elements of collaborative cultivation in the operation process, including the degree of cross-penetration of curriculum carriers, the functioning status of the implicit educational function of cultural carriers, the effectiveness of the institutional guarantee of management carriers, and the smoothness of subject linkage; the development promotion dimension focuses on the actual promoting effect of collaborative cultivation on the development of students' comprehensive competence, including the level of coordinated development of vocational competence and value cognition, the adaptability of students in vocational contexts and social life, and the improvement of their sustainable development potential. The multi-dimensional scrutiny adopts a combination of quantitative and qualitative methods: it pays attention to measurable indicator data as well as the qualitative changes that are difficult to quantify in the educational process. The scrutiny results are fed back to all links of collaborative cultivation through a closed-loop feedback mechanism, and they provide a basis for the adjustment of educational goals, the optimization of content structure, the improvement of carriers, and the refinement of mechanisms, thus forming a virtuous cycle of continuous improvement driven by quality scrutiny<sup>[6]</sup>.

### Conclusion

This study systematically explores the collaborative cultivation of higher vocational college students' professionalism and ideological and political education in the context of industry-education integration, and it constructs a complete analytical framework covering four levels: theoretical foundation, mechanism construction, carrier integration, and ecological evaluation. The study clarifies the intrinsic correlation between the two based on the homology of value orientation, the overlap of content composition, and the complementarity of educational functions. The value logic of collaborative cultivation is embodied in the dual dimensions of the integration of educational effectiveness and the optimized allocation of educational resources. At the mechanism level, it forms an element integration framework featuring bidirectional embedding of goals, an integrated structure of content, and collaborative synergy of subjects. At the carrier level, it builds a path support system consisting of cross-penetration of curricula, implicit indoctrination of culture, and institutional guarantee of management systems. At the ecological level, it constructs an ecosystem architecture covering multiple subsystems, a dynamic adaptation mechanism, and a multi-dimensional scrutiny framework. Future research can further explore the differentiated models of different types of institutions, the development of quality scrutiny tools, and the verification of long-term tracking effects.

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