

Original Paper

Research on Approaches and Effects of School-Enterprise
Collaborative Education Guided by Professional Honor under
the Academic Tutor System

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Abstract

Addressing the prevalent issue of insufficient learning motivation among university students, this paper proposes an educational pathway centered on a sense of professional honor, implemented under the leadership of the academic tutorial system and in collaboration with enterprises. The study first designs a three-stage educational model comprising “professional cognition—honor enlightenment—honor consolidation.” In the third stage, typical corporate cases of professional honor are introduced to achieve emotional connection and deepen professional identity through online sharing and communication. Based on pre- and post-intervention questionnaire surveys and comparative analysis of academic performance, the results show that participating students’ sense of professional honor increased by 20.4%, and their classroom engagement and academic performance were significantly better than those of parallel majors. Finally, the paper identifies limitations such as the single-mode pathway, limited types of enterprises, and an incomplete evaluation system, and proposes future directions. This study provides an actionable new approach to spiritual and cultural education for advancing the academic tutorial system and industry-education integration in higher education.

Keywords

academic tutor, school-enterprise cooperation, professional honor, education effectiveness

1. Introduction

Since the 18th National Congress of the Communist Party of China, the Ministry of Education has clearly put forward the requirements of “equipping sufficient and strong academic tutors” and “deepening industry-education integration and school-enterprise cooperation” in the document *Opinions on Deepening the Reform of Undergraduate Education and Teaching to Improve the Quality of Talent Cultivation*. The academic tutorial system has become an important means for universities to improve the credit system and enhance the quality of talent cultivation, while school-enterprise collaboration constitutes a key pathway for achieving practical education, accelerating the transformation of research outcomes, and serving regional industrial development.

However, the problem of insufficient learning motivation among university students is widespread. The reasons for this include not only the disconnect between course content and professional practice, but also, at a deeper level, students’ lack of professional identity and a sense of honor toward their chosen field. As the emotional core of professional identity, the sense of professional honor is an important psychological basis for stimulating intrinsic learning motivation and forming stable professional beliefs. Therefore, how to systematically cultivate students’ sense of professional honor through the academic tutorial system and school-enterprise collaborative mechanisms has become a new educational topic worth exploring.

2. Research Design: A Pathway of School-Enterprise Collaborative Education Oriented by Professional Honor

The establishment of a sense of professional honor is taken as the orientation, with the focus placed on the ideological dimension of students’ professional education—i.e., school-enterprise cooperation in professional ideological and political education. The process of building a sense of professional honor, led by academic tutors, is designed in three stages, with enterprises deeply participating in the third stage. The objectives and role divisions of each stage are shown in Table 1.

Table 1. Three-stage Educational Model and Role Division

Stage	Stage Name	Main Objective	Leading Party	Enterprise Participation
Stage 1	Professional and career cognition	Establish basic understanding of the profession and career connotations	Academic tutor	None
		“Enlightenment” education of professional		
Stage 2	“Enlightenment” education of professional	Stimulate students’ initial emotional response to professional	Academic tutor	Provide industry background information

	honor	honor		(optional)
	Consolidation of	Make abstract emotions		Share typical cases
Stage 3	professional	concrete and stable,	Academic tutor	of professional
	honor	forming professional	in collaboration	honor (individual +
		beliefs	with enterprise	engineering);
				online interaction

School-enterprise collaborative education is primarily realized in the third stage. The detailed design process of this stage is as follows:

- (1) The academic tutor introduces the educational plan and its implementation status to the enterprise representative;
- (2) The academic tutor explains the objectives and expected outcomes of the school-enterprise collaborative education;
- (3) The enterprise representative proposes an educational plan;
- (4) The academic tutor and the enterprise representative finalize the specific implementation plan and details.

The core content of enterprise participation is the selection of authentic cases reflecting professional honor from within the enterprise (including the personal growth stories of outstanding engineers and stories of responsibility and dedication in typical engineering projects), delivered through online sharing sessions, thematic exchanges, Q&A interactions, etc. After each sharing, the academic tutor guides students to write reflective reports and hold class discussions to reinforce internalization of emotions.

3. Effects of School-Enterprise Collaborative Education Oriented by Professional Honor under the Academic Tutorial System

3.1 Manifestation of the Role of This Educational Model

The involvement of enterprises in the process of cultivating a sense of professional honor emphasizes an innovative educational approach at the spiritual and cultural level. The focus lies in stimulating students' intrinsic learning motivation by fostering positive emotions at the spiritual level. The participation of enterprises plays a very important role in deepening students' sense of professional honor:

3.1.1 Students Can Genuinely Experience the Concrete Manifestation of Engineering Professionals' Sense of Professional Honor, Making Feelings and Emotions Tangible

After the first two stages of shaping and building a sense of professional honor, students have a preliminary understanding of it. However, this understanding is based on something external to themselves and not yet centered on the theme—it is a vague, elusive cognition, a feeling of positive

emotion existing in the imagination. This perception is unstable and may disappear for various reasons. The ultimate goal of school-enterprise cooperation in the third stage is to solidify this emotion in students. Through engineers' sharing and communication of specific events and feelings related to professional honor, and by observing the engineers' body language, tone, and expressions, students establish an emotional connection, making abstract feelings and emotions tangible. This process is also the process of deeply consolidating the sense of professional honor in students' hearts. Through multiple sharing and exchange sessions with engineering professionals, the sense of professional honor takes root in students' minds through different concrete images, becoming a source of motivation in difficult times.

3.1.2 Students Develop Professional Identity and Firm Professional Beliefs

Through sharing and exchanges with senior students (alumni), students see that those who were once similar to themselves have grown into excellent engineering professionals today. This generates a longing for the profession and affirmation of themselves. To a certain extent, the experiences of these seniors represent the future self—what they have achieved and persisted in, students believe they can also achieve and persist in. This strengthens their professional beliefs. Such positive feedback inspires and solidifies students' commitment, ultimately transforming into the good character and competence that a sense of professional honor should embody.

3.2 Analysis of the Effects of This Educational Model

3.2.1 Data Source and Survey Method

The research subjects were 105 first-year students majoring in civil engineering at a certain university. A pre- and post-intervention questionnaire survey was conducted using a self-developed *Questionnaire on Sense of Professional Honor and Professional Identity*. The pre-test was administered one week before the project began, and the post-test was conducted after the one-year project implementation. Academic performance data were also collected from a parallel cohort (not participating in this educational model) for comparison.

3.2.2 Changes in the Sense of Professional Honor

In the pre-test, for the statement "I feel a strong sense of honor about the future development of my major," the proportion of students selecting "agree" or "strongly agree" was 51.8%. In the post-test, 71.4% of students chose options indicating a sense of professional honor, representing an increase of 20.4 percentage points compared with the initial survey on professional preference. This shows that the one-year project implementation has indeed changed some students' attitudes, increased their professional identity, and clarified their direction for professional learning and effort.

Table 2. Pre- and Post-test Comparison of Students' Sense of Professional Honor

Time	Proportion selecting "agree/strongly agree"	Increase
Pre-test	51.0%	-
Post-test	71.4%	+20.4%

(Figure: original chart reference omitted in translation)

3.2.3 Changes in Learning Attitude and Academic Performance

Comprehensive analysis of students' learning status and academic performance during the implementation semester showed that, according to feedback from course instructors, students' learning motivation, classroom interaction, homework completion, and other aspects were significantly better than those of parallel major. This indicates that the cultivation of a sense of professional honor has been effectively transformed into learning engagement and academic performance.

4. Discussion

4.1 Analysis of the Mechanism of Action

The core logic of this study is: sense of professional honor → intrinsic learning motivation → positive learning behaviors → virtuous cycle of academic and career development. The introduction of authentic corporate cases enables students to establish an emotional connection between abstract professional honor and concrete people and events, forming vicarious experiences of "if he can do it, I can too," thereby enhancing self-efficacy and professional beliefs. The academic tutor plays a bridging role throughout the process, organizing, guiding, and deepening reflection.

4.2 Limitations of the Study

Although the project achieved satisfactory expected outcomes, several problems remain. To further deepen the research, the following aspects should be addressed:

- (1) The mode of enterprise participation in collaborative education is too single. Currently, only the sharing of engineering professionals' personal feelings and project experiences is used. Future efforts should explore in greater depth engineering construction cases and the deeds of exemplary individuals, and experiment with diverse methods of exchange.
- (2) The types of participating enterprises are relatively homogeneous. At present, construction enterprises are the main representatives, and cases of professional honor are limited to road and bridge engineering construction. Future expansion could include other sectors within the profession, such as surveying, design, supervision, and testing, to meet the needs of students with different career orientations.

(3) The development of a relatively complete evaluation system for educational outcomes requires long-term observation and analysis across multiple cohorts. Given the relatively short implementation period, the evaluation results have certain limitations.

(4) The sample size is relatively small, and no strict randomized control was set, which may lead to selection bias.

5. Recommendations and Future Directions

In response to the above limitations, the following improvement directions and future research suggestions are proposed:

(1) Enrich educational formats: Explore enterprise open days, short-term job shadowing experiences, thematic speech contests on professional honor, interviews with outstanding alumni, and other diverse activities.

(2) Expand types of enterprises: Collaborate with industry associations to involve design institutes, testing companies, consulting agencies, and other different types of organizations to build a “professional honor case library.”

(3) Develop a systematic evaluation system: Create a multidimensional evaluation scale covering professional identity, learning engagement, professional behavioral tendencies, and professional values, and conduct follow-up studies over 2-3 years.

(4) Strengthen the capacity building of academic tutors: Provide training for academic tutors in areas such as career guidance and psychological mentoring to enhance their ability to collaborate in education.

(5) Establish an enterprise incentive mechanism: Grant honors such as “Education Demonstration Unit” to enterprises that actively participate in collaborative education, thereby forming a long-term cooperation mechanism.

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