

## **Research on the Cultivation Mechanism of Innovative Talents in the Collaboration of Industry Learning and Research**

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**Keywords:** Higher Vocational Education; Collaborative Innovation of Industry, Learning and Research; Talent Training Mechanism; School-enterprise Cooperation.

**Abstract:** The collaboration of industry, learning and research is the focus of higher vocational education in recent years. Many higher vocational colleges have begun to practice collaborative innovation theory in teaching. However, judging from the current development status, the current mechanism for cultivating collaborative innovation talents in higher vocational education and research is still not mature. And in the specific practice process, some problems have also been exposed. It is still necessary for the government, education authorities, schools and enterprises to work together to actively explore and improve the current talent training mechanism. This paper starts with the analysis of the theme analysis of the collaborative innovation talent training mechanism of higher vocational education, and then analyzes the problems exposed in the practice process. Finally, it discusses its future development trend and specific countermeasures.

### **1. Introduction**

Led by the rapid development of science and technology, today's society is experiencing rapid changes. Various industries in the economic field have put forward higher requirements for talent training. Therefore, the concept of collaborative innovation of industry, learning and research as a talent training in the field of education has been the focus of the higher education sector since its introduction. As the main position for the cultivation of professional and skilled talents, higher vocational colleges should actively conform to the development trend, take the construction of collaborative innovation mechanism of industry, learning and research as an opportunity and reform and innovate their own talent training mode according to their actual conditions so as to cultivate more high-quality professional skills. From the perspective of development stage, the current collaborative innovation theory of higher vocational education and research is still in the practical trial stage, and its specific high-level personnel training mechanism is far from mature. And it has exposed some outstanding problems such as imperfect policy environment and lack of stamina for future development.

### **2. The subject analysis of the cultivation mechanism of innovative talents in the collaboration of industry learning and research in higher vocational colleges**

#### **2.1 The main body of government**

The government is one of the most critical subjects in the cultivation mechanism of innovative talents in the collaboration of industry learning and research in higher vocational colleges, which plays a dual role of instructor and manager, and plays a very important role in driving and regulating. As driving role: the driving role of the government main body in the process of building the cultivation mechanism of innovative talents in the collaboration of industry learning and research in higher vocational colleges is mainly embodied in two aspects. One is to build and improve the relevant laws and regulations so that the behavior of each main body in the whole process of building the mechanism can be legally abided by, and it can also play a very important behavior-guiding role in the system. The second is to use financial leverage to leverage other related subjects, and use financial support as a means to drive different subjects to participate in the process

of building talent training mechanism. Regulating and controlling function: in the cultivation mechanism of innovative talents in the collaboration of industry learning and research, there are many diversified participants involved. Different participants have their own interests in the process of talent training. How to properly balance the interests of diversified participants has become the most important part in the construction and development of talent training mechanism. The government main body can make full use of its leading role and coordinate the resources and interests of each main body through administrative means, so that it can satisfy the interests of different main bodies, thus maintaining that the cultivation mechanism of collaborative innovation talents can be perfected.

## **2.2 The main body of colleges and universities**

Higher vocational colleges are the specific places for the construction and perfection of the cultivation mechanism of innovative talents in the collaboration of industry learning and research. Therefore, the status of the main body of colleges and universities is very important in the multi-subject system, usually in the role of practitioners and advocates. In the actual process of training talents, their right to speak is also the largest. The role of the main body of colleges and universities is mainly embodied in the exertion of its subjective initiative, and the full mobilization of all kinds of teaching resources they possess, and the active advocacy of different subjects to participate in the process of talent training to fully combine their own teaching advantages later, and construct and practice a multi-subject collaborative innovation talent training mechanism. Higher vocational colleges are basically colleges of technical application or vocational training. With the popularization of higher education in recent years, the base of talent scale has been expanding. It can be said that they have reserved a very large talent pool for the production and operation enterprises on the front line of society, which is also a great advantage of the main body of colleges and universities themselves to be able to play a role in mobilizing the main body of industry enterprises.

## **2.3 The main body of industrial enterprises**

The main body of the industry enterprise is an important participant in the construction of the cultivation mechanism of innovative talents in the collaboration of industry learning and research. It is essentially different from other main bodies, because the other main components are non-profit social services or management organizations, while the industry enterprise is an independent profit-making organization from society and its market characteristics are very obvious. Industry enterprises are willing to participate in the training of collaborative talents. They have their own strong interest demands. At the same time, their market characteristics determine that they have unparalleled training advantages, which can provide abundant practical resources of software and hardware for the training of talents. Industry enterprises participate in the training of collaborative talents in higher vocational colleges, which is not only market behavior but also social behavior. Their in-depth cooperation with universities is the basis of the construction of the cultivation mechanism of collaborative innovation talents. If the degree of collaboration between them is not enough, the cultivation mechanism of innovative talents is the root of nothing.

## **2.4 The main body of scientific research institutes**

The so-called collaboration of industry, learning and research refers to the concept of innovative talents training which covers multiple subjects such as production, schools and research, among which "research" refers to scientific research institutes. As we all know, the research results of scientific research institutes in our country often lack the market-oriented transformation way, which leads to the fact that many valuable scientific research results cannot be effectively promoted in the market, and its role in social and economic development is naturally difficult to play. In the cultivation mechanism of training talents, there are two main interests of scientific research institutes. One is to establish market-oriented promotion and application channels of scientific research achievements with enterprises, and the other is to absorb high-quality scientific research talents from colleges and universities. Among many participants, the academic advantage of

scientific research institutes is the most prominent, so they can provide very high-quality academic services for colleges and enterprises, thus making the cultivation mechanism of collaborative talents more perfect to really cultivate high-quality vocational skilled talents.

### **3. Problems in the cultivation mechanism of innovative talents in the collaboration of industry learning and research in higher vocational colleges**

#### **3.1 The policy environment is not sound.**

Policy environment mainly includes two aspects of relevant laws and regulations system and administrative support. It plays a very important role in the process of collaborative innovation, and fundamentally provides support and impetus for the construction of talent training mechanism. The construction and improvement of the cultivation mechanism of innovative talents in the collaboration of industry learning and research in higher vocational colleges cannot be separated from the guidance and support of the policy environment, because only by creating an open and active environment, can the subjects of different interests be organically integrated, so as to ensure that collaborative innovation can have an incessant motive force. Although the cultivation of innovative talents in the collaboration of industry learning and research has been successful in foreign countries, it is not fully in line with China's national conditions, so the essence of collaborative innovation in China is still in the error-correcting phase of trying to cross a river by touching a stone. From the past practice course of collaborative innovation, due to the uncertain direction of system improvement and development, the government's relevant policy system is sound and lagging behind, which cannot create a sound and healthy policy environment for the cultivation of innovative talents in the collaboration of industry learning and research in higher vocational colleges.

#### **3.2 Stamina of collaborative innovation is insufficient**

Since 2011, the cultivation of innovative talents in the collaboration of industry learning and research in higher vocational colleges has gradually entered the stage of practice implementation. In the early stage of development, it has indeed experienced a period of positive attitude and high emotions of all participants. However, this situation has not been able to continue. There are two main reasons for the insufficiency of stamina of collaborative innovation. One is the insufficient internal motivation, because different participants have their own interests. Under the premise that the mechanism cannot balance the interests of the participants in collaborative innovation, the cooperation foundation of collaborative innovation is naturally difficult to be reliable; the other is the insufficient external development conditions. Although China's economic structure has made breakthroughs in the reform, the whole society has not yet formed a policy basis for the integration of production, learning and research. There are still many contradictions in the process of cooperation among schools, enterprises, governments and scientific research institutes, which has directly resulted in concentrated outbreak of contradictions of various participants after the sweet period. The construction and perfection of the cultivation mechanism of innovative talents in the collaboration of industry learning and research in higher vocational colleges require the persistence of the attitude and efforts of the participants, especially the sufficient stamina, to complete. Otherwise, it is likely that the previous achievements will be abandoned.

### **4. Development trend of collaborative innovation of production, teaching and research in higher vocational education**

#### **4.1 Further break the bondage of the traditional talent training mode in higher vocational education**

Due to the influence of many factors, the traditional higher vocational colleges show strong lag, closeness and mechanization in talent training. They cannot adjust their teaching objectives and directions well in line with the changes of human resources market, which leads to the situation that

the overall employment rate of students is not enough. The construction of the cultivation mechanism of innovative talents in the collaboration of industry learning and research is an important idea and means innovation in the field of higher vocational education. From the practical application effect, it has brought new vitality and direction to the talent training of higher vocational colleges, and is gradually breaking the inherent mechanism formed for a long time in higher vocational education. Collaborative innovation of production, teaching and research fundamentally changes the single subject situation of traditional higher vocational education talent training, and makes the participants in the whole process of talent training more diverse, and different subjects are equally unified in an effective mechanism. However, although the traditional talent training mechanism in higher vocational colleges has lagged behind the times, it is not a matter of overnight to make it completely withdraw from the historical stage. It still needs multi-subject cooperation to innovate so as to gradually establish a more advanced and scientific talent training mechanism. Although there are still some difficulties in the current stage in the development of the cultivation of collaborative talent of industry learning and research, we can foresee that in the future it will be able to further break the bondage of the traditional model, and hold high the banner of innovation to bring our higher vocational education to a new height.

#### **4.2 Further enhance the proportion and effect of practical teaching in higher vocational education**

The main task of higher vocational education is to cultivate high-quality practical skilled talents for the society. However, it is difficult for higher vocational colleges to obtain more and better practical teaching resources in the traditional education system, which directly leads to the situation that traditional higher vocational education emphasizes theory and neglects practice. Institutions themselves are non-profit organizations of social nature. Teachers generally lack the necessary market practice experience. Due to the limitation of school-running conditions, all kinds of hardware resources available for the operation of practical teaching are relatively scarce. Cultivation of collaborative talents of production, teaching and research can help colleges and universities to strengthen practical teaching resources, thus greatly improving the effect of practical teaching. Since the establishment of the cultivation mechanism of innovative talents in the collaboration of industry learning and research, the proportion and effect of practical teaching in higher vocational education have been obviously strengthened. The collaborative cooperation among various participants also plays a role of resource integration, which improves the teaching level of colleges and universities, and makes enterprises have more abundant talent pools in the human resources market.

### **5. Countermeasures to improve the cultivation mechanism of innovative talents in the collaboration of industry learning and research in higher vocational colleges**

#### **5.1 Strengthen macro-control and optimize policy environment**

As an important subject in the cultivation of collaborative talents of industry learning and research, the government will not directly participate in the specific training process, but it is charged with the important mission of creating a policy environment for collaborative innovation. To further improve the policy environment, we should start with strengthening macro-control and improving laws and regulations. Firstly, as an administrative department, the government should make full use of administrative resources to guide universities, enterprises and scientific research institutes to participate actively in the training of talents, especially to stimulate enterprises with financial and financial leverage. Secondly, the government should further improve the laws and regulations related to the training of collaborative innovative talents, so that all participants can have legal basis in the process of collaborative cooperation, and can from the system establish the interests of all participants to be maximally balanced. The importance of policy environment is self-evident, but at present, the mechanism of collaborative talent training is not yet mature, so it brings great difficulties to the government's regulation and legislation, and it is not easy to improve

the policy environment. Local governments should, on the one hand, actively summarize the relevant successful experience of foreign countries, and on the other hand, conduct in-depth research on the development status of the cultivation of collaborative talents of industry learning and research in China, and then exchange in-depth views with the participants in order to ensure the rationality and effectiveness of the policies and laws and regulations promulgated.

## **5.2 Drive common development and construct cooperative mechanisms**

In essence, industry, learning and research all have interest appeal for talent training, but their respective appeal points are quite different. Only when they are built into a real interest community, can the value of collaborative innovation be fundamentally guaranteed. It can be said that the interest community is an inevitable stage of collaborative innovation, and "driving common development and constructing collaborative mechanism" is the necessary means to accelerate the formation of the community. Firstly, local governments should fully promote market-oriented teaching and teaching concepts, and build a perfect and scientific multi-party cooperation mechanism, and guide more social institutions to participate in running schools by means of regulation and control; secondly, in the process of running schools, intermediaries other than industry, learning and research can be introduced to improve the interests of all parties involved in order to avoid the worries of all participants. Thirdly, public opinion should be guided to strengthen the promotion of collaborative innovation in industry, learning and research, so that it can get more social attention and get more social support while enhancing the brand effect of colleges and universities; fourthly, funds are often the most sensitive and difficult topics for participants in the collaborative process, and banks, insurance and other financing institutions should be introduced to build a smooth and stable financing system for the construction of cultivation mechanism of cooperative and innovative talent.

## **6. Conclusion**

Economic development promotes the wheel of the times to roll forward, and all walks of life are experiencing constant changes under the yoke of historical trends. Cultivation of collaborative innovative talents in industry, learning and research is a model that meets the requirements of current economic development. Equality and cooperation among the three of industry, learning and research in its cooperation mechanism, increase the participants in talent cultivation and radically innovate the concept and mode of traditional higher vocational education. Although the cultivation mechanism of collaborative innovation talents in higher vocational education is not perfect at present, there is no doubt that its innovation in higher vocational education is unquestionable. Through the joint efforts of the whole society, the development of higher vocational education in China will surely take a new step.

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