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Professional Construction and Practice of Intelligent Manufacturing Collaborative Innovation Center from the Perspective of Production-education Integration

Xia Zhang

College of Mechanical & Electronic Engineering, Yunnan Open University, Kunming 650504,Yunnan China

Abstract: The key issues in the professional construction and practice of intelligent manufacturing collaborative innovation center under the background of the integration of industry and education are expounded. From the perspective of the integration of production and education to reconstruct the system, this paper analyzes the innovation of professional personnel training mode, builds a course system based on dual platforms, and forms a personalized talent training mechanism. Finally, the operation guarantee mechanism of the intelligent manufacturing collaborative innovation center is briefly summarized, and the promotion mechanism, performance management and diversified investment mechanism are constructed for the operation of the intelligent manufacturing collaborative innovation center.

Keywords: Integration of production and education; Intelligent manufacturing; Innovation center; Professional construction

1. Introduction

At present, intelligent manufacturing technology and multi-disciplinary and multi-specialty talents such as multi-axis CNC machine tools and industrial robots are in great demand, which puts forward new requirements for the training of manufacturing professionals in higher vocational colleges. Some researchers try to build a new professional group course system for manufacturing majors through modular teaching reform, and carry out professional construction based on professional group docking industry, but they do not integrate professional construction with the construction of intelligent practical training centers, resulting in certain limitations in the implementation effect. [1] From this perspective, based on the development background of the integration of production and education, it is of deep significance and value to explore the professional construction of collaborative innovation center for intelligent manufacturing.

2. Significance of building collaborative innovation center for intelligent manufacturing under the background of integration of production and education

2.1 The construction of intelligent manufacturing collaborative innovation center is an important measure to implement the development deployment of national vocational education and accelerate the development of modern vocational education in vocational colleges

Some researchers believe that in the process of a new round of industrial competition, the deep integration and development of information technology and manufacturing technology is a key issue. The importance of intelligent manufacturing is fully affirmed in the 13th Five-Year development Plan. From the national level, deepening the integration of production and education in vocational education is a key task during the promotion of education modernization program, which means that vocational colleges need to deepen school-enterprise cooperation through innovation, relying on the professional construction of intelligent manufacturing collaborative innovation center, to provide necessary support and impetus for the deep integration of the two.

2.2 Optimize the school-enterprise cooperation of intelligent manufacturing collaborative innovation center under the background of the integration of production and education, and promote the overall

improvement of vocational education and education level

Intelligent manufacturing Collaborative Innovation Center in order to deeply implement the important decision and deployment of "deepening the integration of production and education and school-enterprise cooperation", grasp the key link of practical training base construction, effectively improve the level of vocational education and education, and adapt to the national manufacturing industry transformation and upgrading strategy. [2] Through close cooperation with relevant enterprises, the cooperation support of personnel training, staff training and technical services has been carried out, which has greatly enriched the school-enterprise cooperation mode and played a positive role in promoting the professional construction advantages of intelligent manufacturing collaborative innovation center. [3]

3. Rebuild the system based on the integration of production and education, and innovate the training mode of professional talents

From the perspective of talent training, taking the manufacturing industry position group as the object oriented, training professional talents that meet the needs of intelligent manufacturing collaborative innovation center, forming the necessary core knowledge and skills, and paying attention to the improvement of professional talents' innovation consciousness. In this process, combined with the background of the integration of production and education, the following contents should be paid attention to in the training mode of professional talents:

3.1 Build a course system based on dual platforms

Under the background of the integration of production and education, the professional construction of intelligent manufacturing collaborative innovation center needs to rely on the construction of dual-platform curriculum system training mode, provide continuous technical services for enterprises under the background of enterprise teacher workstations, and promote the improvement of students' quality, ability and skill level through the combination of production and education. Build public basic courses and professional course modules for students, promote the satisfaction of individual development needs of students in this major, and take public professional courses and basic courses as shared courses of professional groups to provide dynamic support for students' composite development. At the same time, professional courses and extension courses are regarded as independent courses to provide platform support for students' subjective play and personalized development.

3.2 Form a personalized talent training mechanism

In order to meet the personalized development needs of professional students, the intelligent manufacturing Collaborative innovation Center needs to adopt a broad class enrollment program, select course modules through secondary distribution, and form a course module training program with personalized characteristics. During this period, the intelligent manufacturing Collaborative innovation center needs to build an order-type talent training model for the talents needs of high-end manufacturing enterprises, and students can independently choose professional course modules to improve the pertinent level of target training. After enrollment, professional students sign a third-party training agreement with manufacturing enterprises to form a collaborative relationship for multiple high-end manufacturing enterprises. At the same time, we will take advantage of the opportunity of the double innovation competition to pay attention to the cultivation of outstanding talents. Under the guidance of the entrepreneurship and Innovation competition, we will provide technical service support for enterprises, build a training system for outstanding talents in higher vocational colleges, promote the improvement of professional teachers' innovative ability, and then promote the cultivation of students' innovative thinking and practical ability. In this process, it is necessary to further close the relationship between the professional construction of talent training and the integration of industry and education, jointly build industrial colleges, and strengthen the improvement of students' professional skills and quality level. At the same time, under the background of the entrepreneurship and Innovation competition, a new professional talent training base is formed through the combination of competition and training to promote the transformation of results, so as to achieve the purpose of optimizing the wrong innovation awareness and entrepreneurial ability of students in this major.

4. Guarantee the operation mechanism of intelligent manufacturing collaborative innovation center

4.1 Build a promotion mechanism for the operation of intelligent manufacturing collaborative innovation center

To improve the promotion level of intelligent manufacturing collaborative innovation center in higher vocational colleges

under the background of integration of production and education, form a three-level management mechanism, take the lead of the school, and achieve healthy development of professional groups under the background of coordinated promotion of departments. All departments work together in this process to provide organizational support for the professional construction of the intelligent manufacturing Collaborative innovation center, and implement the relevant documents such as the project management methods and fund management methods for the professional construction of the intelligent manufacturing Collaborative Innovation Center to provide institutional guarantee and support for the implementation of the project construction.

4.2 Carry out performance management for intelligent manufacturing collaborative innovation center

Higher vocational colleges need to carry out macro-supervision and performance management during the implementation of the intelligent manufacturing collaborative innovation Center project. Form an evaluation mechanism for all aspects of the project initiation, mid-term and acceptance, build a scientific and real-time evaluation mechanism, give play to the leverage role of performance as a management mechanism, and provide promotion and positive influence for the smooth implementation of the intelligent manufacturing collaborative innovation center project.

4.3 It is necessary to perfect and improve the diversified investment mechanism for the professional construction of intelligent manufacturing collaborative innovation center

Support the implementation of the joint construction mechanism for the professional construction of the intelligent manufacturing collaborative innovation center, carry out project fund raising through multiple channels, and strive for the support of higher authorities for the professional construction of the intelligent manufacturing collaborative innovation center. Higher vocational colleges need to continue to invest in projects, revise and improve the existing system of colleges and universities, and implement related systems such as fund raising, management and operation guarantee. Relying on multiple inputs, we will promote the further development of the professional construction of intelligent manufacturing collaborative innovation center.

5. Conclusion

In the process of professional construction of intelligent manufacturing collaborative innovation center in higher vocational colleges based on the integration of production and education, through the effective implementation of professional construction strategy, professional personnel training mechanism and operation guarantee mechanism, intelligent manufacturing collaborative innovation center has achieved a series of construction results, technical service to the society has a good response, and through the way of school-enterprise co-construction, The formation of intelligent manufacturing collaborative innovation center R&D service center has provided driving support for the development of small and medium-sized enterprises and played a good social benefits. The key issues in the professional construction and practice process of intelligent manufacturing collaborative innovation center under the background of the integration of industry and education are expounded, aiming at promoting the further play of the advantages of intelligent manufacturing collaborative innovation center and better serving for professional construction.

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