

## **Construction of Numerical Control Professional Teaching Resource Database under Work Process**

**Cheng BaoXin**

Tianjin Petroleum Vocational and Technical College , Jinghai district, tianjin 301607

**Keywords:** numerical control major; teaching resource library; construction

**Abstract:** Establishing and perfecting the teaching resources database of NC majors can provide students with rich learning resources. Students can arrange their own learning plans, and also effectively stimulate students' self-learning ability, thus improving learning efficiency. This paper analyzes the importance of the construction of the numerical control professional teaching resource library under the working process, and proposes the method of establishing and perfecting the teaching resource library.

### **1. The importance of the establishment of the numerical control professional teaching resource library**

With the continuous advancement of science and technology, enterprises have gradually raised various requirements for talents. CNC majors not only require students to master a wealth of theoretical knowledge, but also require students to have excellent practical skills. At present, most enterprises pay more attention to the comprehensive ability of students when recruiting talents. Nowadays, the numerical control professional classroom teaching mode adopted by most universities can not meet the needs of students' growth and development. Therefore, it is urgent to build and promote the curriculum reform, and the curriculum is rich in content, which can promote students' better learning and progress. Through the establishment and improvement of the data resource library, the NC professional resource course can achieve the integration of teaching theory and practice in the teaching process, and create an objective and realistic practice atmosphere for students, so it is of great significance for cultivating CNC professionals.

### **2. Methods and means of establishing a professional teaching resource library for numerical control**

#### **2.1. Bring together high-quality teaching resources and build an advanced open learning platform**

To build a numerical control professional teaching resource library, we must take the teaching as the center, take the enterprise as the leading demand for the numerical control professionals, constantly improve the content of the curriculum resources, and effectively carry out the construction of the teaching resource library. The NC professional teaching resource library should cover the main six courses, and the teaching resources of the teaching resource library should be diversified and three-dimensional, thus combining excellent teaching resources and establishing a more systematic and comprehensive library of teaching resources. In the process of perfecting the resources of the curriculum resources, it is also necessary to combine the actual teaching situation, and strive to accurately present the core content of the major, construct an advanced and open learning platform, effectively promote the reform of the teaching mode of the numerical control professional curriculum, improve the quality of personnel training, and cultivate more for the society. More excellent CNC professionals.

#### **2.2. Reduce the cost of professional training**

In order to enrich and perfect the teaching resources of CNC professional, we must rely on

advanced Internet mobile devices, more convenient use of the Internet platform, and constantly improve the function of the teaching resource library, support the online learning of teachers and students, and effectively reduce the cost of personnel training. Establishing and perfecting the numerical control professional teaching resource library can provide more flexible and rich learning resources for the teachers and students of the whole school, and innovate personalized learning methods. Learners can learn the theoretical knowledge needed by searching the resource library, and find related problem bases and practice topics to consolidate the exercises. Students can also arrange their own learning progress to realize human-computer interaction exercises, so that they can quickly master the measurement technology related operations. Skills, improve your professional knowledge and operational level, can also effectively reduce the cost of education.

### **2.3. Consolidate the teaching resources of CNC technology and improve the quality of education and teaching**

Through the construction of the numerical control technology information resource library, the teaching work of the numerical control profession is effectively promoted to standardize the standards. In addition to matching the textbook content related to the standard curriculum teaching standard, the NC professional teaching resource library can also integrate the teaching curriculum design, multimedia teaching courseware, and problem solving library, and attach importance to perfecting the evaluation criteria so that students can effectively train and self-test. The construction data information resource library should also comply with relevant laws and regulations, comply with relevant standards and norms, provide technical support for teachers and technicians, and vigorously promote the effective development of the curriculum resources development ability of school professional teachers, thereby improving the quality of education and teaching. The campus resource library is established to facilitate the students' learning needs, integrate and plan limited teaching resources, which can more facilitate students' learning needs, free learners from the traditional solidified learning mode, improve learning efficiency, and promote students.

### **2.4. Develop school-enterprise cooperation and broaden the radiation range of the teaching resource library**

As a professional with high level of practical skills, CNC majors not only enable students to have solid theoretical knowledge, but also enable them to integrate themselves with the society through practical exercises, so that students can understand themselves. The inadequacies can be more targeted and improved, and can be integrated into society more quickly. Schools should also pay attention to the cooperation between schools and enterprises, and effectively integrate campus teaching into the talent requirements of enterprises, so that talent training can be in line with the standards of social talents, improve the practicality and applicability of teaching, and enable students to adapt to their work more quickly. post. Therefore, the establishment of the numerical control professional teaching resource library should follow the relevant principles of building and sharing, building and using, and can improve the quality of school personnel training and strengthen the communication and contact between school students and related enterprises. The school can also bring relevant and experienced talents from the company to the school, carry out some exchanges and seminars, give guidance and point to the students, and can include them in the teaching resource library to facilitate students to find and Learning, so as to improve the quality of education and teaching, expand the radiation capacity of the educational resource pool, so that the study of numerical control majors is closer to the demand for talents in the workplace, and improve the quality of personnel training.

## **3. Precautions for the construction of numerical control professional teaching knowledge base**

### **3.1. Improve the numerical control professional teaching resource library**

To establish and improve the teaching knowledge base of numerical control specialty, schools

should fully develop the teaching resources of numerical control professional and introduce advanced multimedia teaching facilities, so that the teaching courses of numerical control majors can be more informationized and scientific, so that students can access relevant materials for learning anytime and anywhere. Enriching your cultural knowledge can also help students grow and progress quickly. Secondly, it is determined that the relevant curriculum framework of the knowledge base can be investigated and investigated by enterprises related to the industry, and the requirements of the society for CNC professionals are analyzed. Then combined with the society's relevant requirements for talents, as a material to continuously enrich and improve the resources of the CNC professional, so that students can learn through the resource library to form the professional skills and professional qualities required to enter the society. When perfecting and enriching the professional library of numerical control, it is necessary to fully combine the characteristics of this specialty to help students of numerical control majors to construct a rich theoretical framework of the curriculum. CNC major is a discipline with high requirements for practical and theoretical knowledge. The core curriculum system includes common milling machine processing, CNC milling machine and machining center machining, CNC lathe and other theoretical knowledge related to the course. According to the relevant teaching requirements of the CNC professional course system, some experienced experts and teachers can be invited to exchange a discussion, and then jointly determine the typical teaching and teaching tasks of the various courses of the NC major, and then successfully integrate it into the teaching. The collection of teaching tasks and typical cases is integrated into the resource library, which is convenient for students to consult, and also facilitates teachers to prepare lessons. Perfecting the information resource library of CNC professional, students can be free from the limitations of time and space. With the help of mobile network equipment, they can log in and access the relevant knowledge of the profession, and promote students to voluntarily and actively participate in learning. With these resource information, these key knowledge cases can be integrated into the teaching, and the relevant teaching objectives required by the standards of the numerical control professional courses can be better completed, and the teaching ideas of each course can be promoted to be more distinctive. Students can use these information resources to make full use of the time under the class. In the classroom, teachers can ask their teachers questions. Teachers can give students more targeted guidance and help, thus improving students' learning efficiency.

### **3.2. Organize the construction of numerical control professional data resource database in an orderly manner**

Improve the construction of relevant knowledge courses for numerical control majors, and better serve the numerical control professional teachers and students. The teachers and students of the whole school can log in and learn the relevant knowledge they need, improve their knowledge level, and exercise their ability to improve their comprehensive level. It is necessary to organize the database resources of each course of NC major. The classification of professional knowledge should be scientifically classified according to each course. In the construction of database resources, the comprehensiveness of information should not be blindly emphasized. What is more important is to let the information of CNC professional. It can be more organized, and it is organized and uploaded according to the knowledge content corresponding to each course chapter, so that teachers and students can be more quickly and efficiently viewed. For any course of numerical control major, it is difficult for the teaching resource library to be related. The knowledge of the curriculum is covered. The construction of the teaching resource library naturally cannot cover all the knowledge points. Otherwise, the information of the database resources will be complicated, the information content of the teaching resources will be repeated, and the knowledge points of the chapters are not necessarily organized. The students are very It is difficult to integrate information from these huge data information and master the connection between relevant professional knowledge, which naturally makes learning without certain logic. Therefore, in the collation of CNC professional knowledge, the NC professional teaching database should be able to highlight the key content so that students can clarify the relevant context of knowledge learning and build a complete knowledge

system in their own minds. For the more typical cases or the comprehensive use of multiple knowledge points, you can conduct a separate summary to avoid the stagnation of the database information resources, affecting the students' reading results. In the process of learning, the students themselves must have certain rules to follow, and they should not be all-inclusive. They should not always stay in the study of a theoretical knowledge. They should dare to abandon some repetitive knowledge points, streamline learning tasks, and consciously carry out Through the integration, keep a clear idea in the study, so that the effect of learning to improve will be more effective.

### **3.3. Introduced advanced teaching facilities, innovative teaching forms**

One of the most important aspects of the CNC professional learning process is drawing. Drawing is very important for CNC professional learning. In order to help students improve the level of drawing, schools should pay attention to the introduction of advanced teaching equipment, stimulate students' interest in learning, and realize integrated classroom teaching in a true sense. By establishing and improving the data resource library, the school has become richer in teaching resources. In terms of teaching content, the establishment and improvement of the teaching resource library, the digital information network resources are more comprehensive and comprehensive based on the content of the teaching materials, and the teaching content is more scientific and organized. Under the current situation, many schools provide services to teachers for the construction of data resources. They mainly use faculty and staff as the main body of service. Students have certain restrictions on the use of these data resources. Nowadays, more is to advocate the education and teaching mode that takes students' study and life as the main body of service, and promotes the all-round development of students. It is also supported by more and more faculty and staff. Therefore, in the new era, we must innovate the form of education and teaching, and try our best to implement a personalized learning model based on work tasks. Carrying out a personalized learning model, relying on data information resources, advocating personalized learning, task-driven and problem analysis as a starting point for learning activities. With the numerical control professional teaching resource library, students can carry out independent material selection, self-planning, and rational planning according to their own learning conditions, thereby improving students' learning efficiency.

## **4. Conclusion**

Perfecting the construction of the CNC professional knowledge base is a matter of great innovation value. Establish a perfect library of CNC professional technology resources, innovate education and teaching mode, continuously improve and update curriculum resources, facilitate the retrieval and learning of teachers and students throughout the school, students can learn and think independently, promote students' growth and progress, and thus improve the level of education and teaching. Develop more CNC professional technical talents for the society.

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