Research and Practice of Application-oriented Personnel Training Mode Based on School-enterprise Cooperation

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Abstract. Taking the electronic information engineering major of Xi’an Peihua University as the research object, this paper puts forward an application-oriented personnel training mode based on school-enterprise cooperation, which includes four aspects: practical projects, subject competitions, enterprise courses and enterprise engineers’ teaching. Through practical exploration, it achieves the goal of multi-dimensional and multi-means joint training of students, such as school-enterprise integration, project and competition, and verifies the training model. The validity of the model can be used as a reference for other majors.

Introduction

Training professional and skilled talents that can meet the needs of the industry has always been the goal of talent cultivation in colleges and universities. However, in fact, some colleges and universities still stay at the level of theoretical teaching in terms of talent education, and school-enterprise cooperation often stays at the superficial form. Failure to pay attention to the integration of education and teaching ideas with industrial development and social needs leads to students’ inability to have good and solid practical application ability.

In order to solve this problem, this paper takes Xi’an Peihua University of electronic information engineering specialty as the research object, combined with professional features and core skills, was proposed application-oriented talent training mode based on school-enterprise cooperation, namely to establish the talent training scheme between colleges and enterprises, set up professional direction course, enterprise jointly with the school course development and implementation, carries out the enterprise campus internship project into the classroom, generation and curing students core skills to promote practice. This training mode integrates teachers, students and enterprises into an organic complex, highlights the employment orientation of enterprises and the cultivation of professional and practical skills, and achieves the goal of multi-dimensional and multi-means joint training of students in school-enterprise integration, projects and competitions.

Application-oriented Talent Training Mode Based on School-enterprise Cooperation

The application-oriented talent training mode based on school-enterprise cooperation is carried out on the basis of the talent training program. The enterprise and enterprise enterprises shall jointly formulate the talent training program, build a process-oriented course system based on work practice, including enterprise course modules and professional courses, and formulate the credit exchange mechanism between enterprise courses and professional courses. According to the practical observation, run by the local college students are more willing to accept a line of knowledge related to industry and operate, and contact of the industry are more urgent, although the school also in promoting the cooperation between colleges that guided by the demands of market and social employment of personnel training mode, but the companies did not participate in the integral design of the talent cultivation, courses can't adapt to the development of industry and demand, the lack of updates. In this paper, based on the factors of applied talents training mode requires participation training for both school and enterprises, through the discussion to develop
The Integral Thought of the Application-oriented Talent Training Mode Based on School-enterprise Cooperation

The integral thought of the application-oriented talent training mode based on school-enterprise cooperation is carried out by relying on talent training scheme. Joint ventures jointly formulate talent training scheme, construct curriculum system based on work practice process, including enterprise curriculum module and professional curriculum, and formulate credit exchange mechanism between enterprise curriculum and professional curriculum. However, some enterprises in colleges and universities do not participate in the overall design of personnel training, resulting in curriculum settings cannot adapt to the development and needs of the industry, lack of updating. The application-oriented talent training mode based on school-enterprise cooperation proposed in this paper requires both schools and enterprises to participate in the training of talents, to formulate a scientific and reasonable training plan after discussion, to establish curriculum system around the goal, to formulate teaching plans, to participate in teaching and scientific research activities together [2, 3], and to ensure that the training of applied talents can follow the guidelines.

Implementation Scheme of Application-oriented Talent Training Mode Based on School-enterprise Cooperation

Setting up Enterprise Courses with Enterprise Projects as Traction

In this paper, the talent training mode proposed by the joint venture establishes the curriculum system, adopts the "project-based" education and teaching system, sets up the enterprise curriculum as the traction of the actual project of the enterprise, and trains the students by transferring the production mode of the enterprise to the school training room, so as to cultivate the students' innovative and entrepreneurial consciousness and practical ability.

Taking students majoring in electronic information engineering in our university as an example, China coal aerial survey and remote sensing bureau, as a key unit of school-enterprise cooperation, has successfully carried out two "customized classes" in our university, each of which is based on specific projects of enterprises, such as the third national land survey project. In the process of implementing enterprise engineers will be to focus on training students in the form of course module, then set up the project team to complete the specific work, in the whole project is complete, or one end of the semester will be graded by the enterprise to the students, the school will be according to the enterprise grade replacement, undertake to the student credit after gradually improve will eventually develop process of the construction of the project from the classroom to learn the main teaching mode.

Promoting Skills Practice through Discipline Competition

As an important practical application link for students of electronic information engineering in our university, subject competition is also an important part of the personnel training mode. On the one hand, subject competition is used as a traction to set up open elective courses, on the other hand, it can improve the application ability of students’ professional knowledge by means of competition.

The national competitions of the students majoring in electronic information engineering in our university mainly include the National College Students' electronic design competition and the National College Students' mathematical modeling competition. Taking the National College Students' electronic design competition as an example, we invite enterprise tutors to set up a joint training camp for students' electronic product design, and conduct special training and guidance...
around the competition. In the first phase, a total of 70 students participated in the competitions, reaching the tertiary level. The total number of workers is 36%. Through practice, we can gradually set up corresponding elective courses around the contest content, and organize students to participate in the contest, so as to truly achieve the goal of "promoting contest, promoting learning by contest, combining practice with competition."

**Application Effect of Application-oriented Talent Training Mode Based on School-enterprise Cooperation**

The mode of application-oriented talent training mode based on school-enterprise cooperation has been running for four years, that is, a whole training cycle. Both teachers and students have benefited a lot, which is embodied in the following aspects:

1. The number of horizontal scientific research projects has increased significantly. Through the application-oriented personnel training mode based on school-enterprise cooperation, the relationship between teachers, students and enterprises is closer, which provides strong support for the research of horizontal scientific research projects. Teachers and students can have a deeper understanding of the development of the industry and grasp the frontier research. The Institute of electronic information engineering specialty studied in this paper has made remarkable achievements in horizontal scientific research projects. In 2018, 31 projects were set up. Among the first and second batches of projects set up by the Ministry of Higher Education in 2018, 19 projects were set up, and the number of projects was ranked first in the whole university.

2. The number of student competitions has increased significantly. With the help of training modules such as enterprise engineers' teaching and pre-competition special training, electronic information engineering students are able to have sufficient discipline competition skills, which not only have solid professional knowledge, but also have good practical skills of enterprises. In the discipline competition, we can carry out targeted innovation and design according to a certain industry problem, and the competition works and ideas are more suitable for the market and can be applied to the actual field. Based on this background, students in our school are more likely to stand out and achieve excellent results.

3. The satisfaction rate of student employment rate has been greatly improved. After students majoring in electronic information engineering in our school can effectively complete enterprise project work by associating with enterprises, and have relatively complete comprehensive professional ability and relevant work skills, they can directly enter into the practical assessment of students by enterprises, and consolidate engineering application strength [5]. Moreover, some enterprises have signed agreements with our school on talent transfer. For example, after the students of the first customized class of China coal aerial survey and remote sensing bureau successfully completed their studies, 8 students have entered the enterprise through two-way selection of employment. After the early project practice, it is easier for enterprises and students to get to know each other, and at the same time, the employment satisfaction rate is higher, thus creating a win-win situation between schools and enterprises.

**Summary**

Colleges and universities play an important role in the process of students’ growth and development. It is the responsibility of every educator to constantly explore the training mode that can meet the needs of high-level applied talents in society. This paper takes the electronic information engineering major of Xi’an Peihua University as the research object, and puts forward an application-oriented talent training mode based on school-enterprise cooperation between universities and enterprises, which can achieve the goal of integration of industry and learning better and achieve certain results through practice, but there are still many problems in the implementation process, which need to be gradually improved in the continuous exploration.
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