

Application and Practice of Simulation Software in Electronic Technology Course Teaching of Secondary Vocational Schools

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Abstract: Simulation software is very suitable for course teaching, especially practical teaching, not only can avoid the problems existing in traditional practical teaching, but also can provide students with a good and efficient practical training environment. In the use of simulation software, students can choose the appropriate practical training content according to their own characteristics and the actual needs of learning, repeated practice and training, through this way greatly improve their professional skills and practical ability. However, there are still a series of problems in the application of simulation software in practical training teaching that have not been effectively solved. In view of this, this paper briefly analyzes the application and practice of simulation software in electronic technology course teaching in secondary vocational schools, hoping to provide some corresponding references and help for readers.

Key words: simulation software; Secondary vocational school; Simulation software

The main purpose of vocational education is to train a large number of high-quality, high-level professionals to meet the needs of the development of society and enterprises. Electronic technology is a basic course of mechanical and electrical majors, which requires students' practical ability and practical ability to be very high. Students not only need to master solid professional theoretical knowledge, but also have strong practical ability and practical ability. Only in this way can they enhance their core competitiveness and meet the needs of enterprises and jobs. Therefore, we must pay attention to the practical teaching of electronic technology. Through high-quality and efficient practical teaching, students' practical ability can be improved to lay the foundation for their future development. However, under normal circumstances, due to the difficulty of carrying out practical training teaching, students' practical ability is weak. The introduction of simulation software into electronic technology practical training teaching can not only solve the problems of professional students in practical training, but also help secondary vocational students learn and master professional knowledge, strengthen their practical ability, and lay a foundation for their future development.

1. Practical training learning environment provided by simulation software

(1) An open environment

The simulation software is open to students on the basis of information technology, they can choose some specific scenes according to their actual situation and real needs for practical training, therefore, the experimental system has a certain openness, mainly reflected in the opening of resources, the use of simulation software in practical training, including a variety of practical training equipment, Different experimental environments and experimental devices, they can choose and use independently according to their actual situation and real needs, in the system there are also detailed operating guidelines and instructions, they can use in the process of their own reference and reference.

(2) The training environment of independent interaction

Compared with the traditional practical training teaching, the most significant feature of simulation software is that the content and mode of simulation software are not fixed, but can be dynamically adjusted according to the needs and ideas of users, with good autonomy and interaction. In the process of practical training, teachers can adjust the simulation software according to their practical training needs and students' interests, and design different types and forms of human-computer interaction. In this way, they can greatly enhance their practical training enthusiasm and initiative, and they can also adjust the practical training methods and contents according to their own practical training needs. In the training of their innovative thinking, but also to improve their practical ability.

(3) An efficient and safe training environment

In the traditional practical training teaching process, due to the impact of the training environment, type and hardware, the content and type of practical training that students can carry out are very limited. Especially, the training cost is too high, the consumption of hardware materials is huge and the risk factor is high, and the opportunities for students to carry out practical training are often very small. This will not only lead to their practical ability and practical ability can not be improved, but also their innovative thinking and creative consciousness can not be developed and shaped, which seriously affects their comprehensive ability and professional quality enhancement. In this regard, simulation software is applied in the practical training process, such practical training does not need to rely heavily on training equipment. It will not cause the related practical training hardware loss, reduce the cost of practical training, even some of the original high risk coefficient of practical training teaching, can also be simulated by simulation software, not only can strengthen the students' practical ability and operational ability, but also make their innovative thinking and innovative consciousness have been fully developed and promoted.

2. The application path of simulation software in the teaching of electronic technology courses in secondary vocational schools

(1) Create simulation software to ensure the teaching effect of practical training

The application of simulation software in electronic technology course teaching in secondary vocational schools needs to have an

information platform as support, only in this way can it maximize its role. In this regard, when using simulation software in practical teaching, secondary vocational schools should actively build simulation and practical training teaching platform in line with the principles of “combining reality with reality” and “combining virtual-reality with reality”. Combined with curriculum teaching, especially the requirements of practical training, build a virtual operation link that meets the requirements of real training, and provide students with an interactive, open and self-service simulation and training environment. To ensure the safety, fluency and effectiveness of the actual training and learning process. To be specific, considering the application needs of the software, it should collect a large number of simulation teaching resources. At the same time, the simulation software should take the secondary vocational school itself as a unit, run the goal of “cultivating students’ practical ability and developing students’ innovative ability” through the teaching, and build a complete practical training project with the support of information means. So that students can better enjoy the convenience brought by the simulation software, and obtain the orderly growth of professional ability and comprehensive literacy. In addition, secondary vocational schools should build their own cloud servers, on this basis, promote the construction of simulation software practical training teaching, formulate unified teaching resource structure standards and norms, and further ensure the compatibility, standardization and sharing of software operation.

(2) Build an online teaching system to promote the scientific development of practical training

In order to better play the role of simulation software practical training teaching, secondary vocational schools should also actively do a good job in the development of online practical training teaching system, specifically, they can actively match enterprises, relying on school-enterprise cooperation to build “cloud online simulation software”, to provide students with more perfect conditions and environment for online practical training. On this basis, professional teachers can combine the practical teaching needs, use teaching equipment to connect the software and access the system, so that the simulation software can serve more students. At the same time, the building of this simulation software should have the following characteristics: First, the characteristics of remote practical training. Secondary vocational schools should do a good job of supporting the simulation software, set up a special server, 24 hours to provide students with remote training operation access services, so that students can not only enter the simulation software in the school to carry out practical training learning, but also in the home or enterprise practice process can still access the system at any time for simulation practice. Second, the real characteristics of the situation. In order to better play the role of simulation software in practical training teaching, secondary vocational schools should focus on improving the participation of practical training teaching and meet the needs of students at different levels and levels of practical training learning. The software designed should have a variety of situational backgrounds to match the needs of the practical training process, so that students can better integrate into it, feel the main points of practical training and obtain ability development. On this basis, the software should also have the functions of teacher error correction and student inquiry, so as to ensure the interaction between teachers and students in the process of practical training teaching and provide the effect of practical training teaching. Third, closed-loop management. In the process of designing simulation software, it is necessary to ensure that the software has the function of recording the practical training process, especially for those key links, it is necessary to design data monitoring and recording nodes, so that teachers can better grasp the practical ability of students. At the same time, it should also be able to practice teaching reports, so that teachers can fully grasp the simulation software training process, and then in the subsequent teaching practice to better guide students to learn and improve.

(3) Improve intelligent practical training courses to help promote teaching science

First of all, it is necessary to integrate teaching modules and auxiliary teaching resources. On the one hand, teachers should focus on the content, requirements and objectives of practical training, and do a good job in organizing the course resources of simulation software practical training. In view of this, secondary vocational schools can base on the development situation of Internet + education, and actively carry out online excellent course production, information means of practical training teaching application competitions, etc., in order to lead more teachers to participate in the construction of simulation software; On the other hand, it is also necessary to collect auxiliary course resources around the specific platform operation of students, and draw materials from the actual operation of students, so as to further improve the effectiveness of teaching. Secondly, we should focus on the specific modules of practical training to guide students to learn and use. Based on the design and construction of relevant modules, specific practical training modules should be introduced for students to carry out repeated operations and real-time operations. On this basis, professional teachers with sufficient experience in simulation software design should be actively invited to form a targeted intelligent performance evaluation team, or a third-party performance evaluation agency should be connected to effectively evaluate the application effect of simulation software and the scientific nature of course content, and the idea of practice, reflection and innovation should be followed. Constantly find problems, analyze problems and solve problems, create an intelligent simulation software practical training course system, and help the scientific and efficient promotion of practical training teaching.

(4) Optimize the relevant mechanism and process to promote the effective use of resources

In the process of construction of simulation software practical training teaching resources, we can find that only by doing a good job of optimization of relevant mechanisms can we better meet the specific requirements of simulation software practical training teaching. In this regard, it is necessary for secondary vocational schools to focus on the construction of simulation software practical training teaching resources, do a good job in the optimization of relevant mechanisms and processes, build a high-quality digital resource system with high service quality, and realize the effective sharing of curriculum resources inside and outside the school. Specifically, secondary vocational schools should be based on the idea of “service”, “sharing” and “co-construction”, and on the basis of grasping students’ learning characteristics and practical training teaching needs, actively connect with social enterprises and rely on specific school-enterprise cooperation to develop curriculum resources that are compatible with actual practical training operations and real jobs. On this basis, it is necessary to work out the relevant course development mechanism with enterprises, and lead enterprises to participate in the construction of

simulation practical training resources to ensure the full development and utilization of resources. On this basis, we should also work with enterprises to do a good job of simulation software training and real training, on-the-job practice docking services, relying on good platform assessment and data analysis functions, for students to lay a good opportunity for on-the-job practice, so that their practical training learning is both virtual and practical, professional comprehensive ability has been further developed.

(5) Strengthen teacher training and improve teachers' teaching ability

Professional teachers play a vital role in the construction of simulation software practical training teaching resources. As the direct users and users of these resources, whether they have high digital and information ability will directly affect the simulation software practical training teaching effect. Therefore, secondary vocational schools must do a good job in training professional teachers. Constantly improve the application ability of simulation software to promote the overall quality and level of education. To be specific, on the one hand, colleges and universities can rely on their teaching and research teams to train professional teachers on the use of simulation software; On the other hand, they can also actively link up relevant social experts and set up information technology training bases. On this basis, they can actively carry out various forms such as centralized teaching, decentralized teaching and network teaching, so as to improve the relevant ability and level of professional teachers. At the same time, teachers themselves should actively learn and absorb some professional knowledge, while using simulation software to carry out practical teaching, and constantly combine the practice teaching process to improve their own educational skills, so as to better guide students' practical training and development, and promote the improvement of teaching effect.

Epilogue

In short, in the new period, it is necessary for secondary vocational schools to face up to the significance of simulation software in practical training teaching, and on this basis, constantly use new ideas and new methods to do a good job in simulation software practical training teaching reform, to ensure the effect of practical teaching, so as to improve the overall education and education quality of colleges and universities at the same time, for students to better study, employment and development of the foundation.

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