

Internet of Things 1+X Certificate System and the Implementation Path of Documentary Evidence Integration

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Abstract : With the in-depth reform of the vocational education system, the application of the 1+ X certificate system has played an irreplaceable role in deepening school-enterprise cooperation, meeting industry employment needs, building a “double-qualified” teaching team, and increasing employment rates. effect. This paper takes the Internet of Things major as an example, infiltrates the content of 1+ X certificate into the training of Internet of Things professionals through various methods, builds an online teaching platform for documentary evidence integration, and deeply explores the 1+ X certificate system and related issues related to the implementation of documentary evidence integration.

Keywords : 1+ X Certificate System; Internet of Things Major; Documentary Evidence Integration; Implementation Path

In recent years, vocational education has fully launched the pilot work of the system of “diploma certificate + several vocational skill grade certificates” (hereinafter referred to as the “1+ x” system). Vocational skill grade certificate has become an important standard for judging students’ vocational skill level. It recruits training evaluation organizations for the society, connects with international vocational standards, develops vocational skill grade standards according to relevant regulations, assesses, evaluates and issues certificates. The Internet of Things major is one of the important majors in vocational colleges. There are many problems in the traditional teaching model that affect the teaching effect. Practice has proved that the combination of the 1+ X certificate system and the integration of documentary evidence in the teaching process of the Internet of Things can give full play to the professional education of the Internet of Things to better meet the needs of industry and enterprise talents, and improve the effectiveness of the construction of the Internet of Things specialty.

1. The importance of 1+X certificate system and documentary evidence integration for IoT majors

1.1 Current situation of Internet of Things professional teaching

The so-called Internet of Things refers to the use of global positioning system, radio frequency identification, laser scanning and other equipment to connect objects and the Internet according to the agreed protocol for information exchange and communication, thereby realizing intelligent identification, tracking and supervision. At present, the Internet of Things technology has been applied in many fields such as smart medical care and smart campus. Many colleges and universities have many certificates corresponding to the Internet of Things major, such as the National Computer Level 2, H3CNE Network Engineer, College English Level 4 Certificate, etc., but there is no vocational skill level certificate for the Internet of Things major. Therefore, many colleges and universities have The Internet of Things majors have not yet been configured for vocational skills certificates in terms of curriculum setting and teacher allocation.

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1. 2 Significance of documentary facility

The “1” in the 1+ X certificate system represents the academic certificate, and “X” represents the vocational skill level certificate. The application of the 1+ X certificate system in the teaching of the Internet of Things is to guide students to obtain professional academic certificates while also trying to obtain professional academic certificates. Work hard to get a vocational skill level certificate. At present, there are many “X” certificates in the Internet of Things major, such as the Internet of Things engineering implementation and operation and maintenance certificate; Another example, the sensor network application development certificate; another example, the Internet of Things application system development certificate. Taking sensor network application development as an example, in the primary and intermediate sensor network application development test syllabus on the service platform of domestic 1+ X pilot colleges and universities, 70 points out of 100 points are practical questions, and the test site coverage at present, the core courses of IoT majors offered by major colleges and universities cannot meet the assessment needs, and more than 8 credits of learning content need to be added to traditional courses.

2. Analysis of the implementation path of the 1+X certificate system for the Internet of Things major and the integration of documentary evidence

2. 1 Innovative documentary evidence financing model

Mode 1: Fusing “X” in “1”. This model is produced after the development of the 1+ X certificate system for a long time. It realizes the integration of documents and certificates with perfect teaching content, efficient replacement courses, and rich teaching space to ensure the overall teaching and course system construction of the Internet of Things after the integration, teaching evaluation, etc., all meet the requirements of the 1+ X certificate system. Implementing the 1+ X certificate system in IoT teaching can not only help most students obtain academic certificates and vocational skill level certificates, but also allow many graduates to obtain higher-level vocational skill certificates. Mode 2: Realize the docking and fusion of “1” and “X”. The “X” in this mode is relatively independent, not all “X”s are completely merged into “1”, only a small amount is merged. However, when the two are integrated, it is necessary to grasp the key points of “X” and “1”, and grasp the specific requirements for the integration of the two. At the same time, it is necessary to choose a reasonable integration method and play the supporting role of “1”, but also to promote the development of “X”. Based on the knowledge and skills and professional ethics level requirements involved in the “X” certificate, the fusion surface and the docking point are determined to ensure that “1” plays a powerful role in the implementation of “X”. Practice has proved that the application of this model in the professional teaching of the Internet of Things can cultivate more talents in short supply in the development of industries and enterprises.

2. 2 Specific countermeasures for documentary evidence financing

First, clear goals. The “X” certificate in the 1+ X certificate system has three levels, namely elementary, intermediate and advanced. Colleges and universities should carefully study the different requirements of the “X” certificate for students’ basic knowledge and professional ethics in these three levels, and make clear Different levels have different requirements for course content and course teaching goals, and guide students to formulate “X” certificate goals to provide students with more effective services. At present, IoT application design is connected with professional knowledge and skills such as electronic technology application, electronic and information technology, communication technology, and computer, and students must define the learning system based on this. Secondly, after designing the learning system, teachers should optimize and improve the courses in “1” based on this, and check them in combination with the “X” certificate standards to ensure that the curriculum design and the “X” certificate examination standards are highly unified, and then give full play to the role of the 1+ X certificate system. However, from the perspective of vocational education as a whole, the integration of “X” and documentary evidence should not be used only in the Internet of Things major, but also in the application of computer application technology, software technology and other majors.

Second, optimize the content. At present, it is necessary to optimize the content of documentary evidence according to the actual situation, and innovate to use the means of strengthening and repairing the content. During this period, teachers should improve their sense of professional responsibility, actively communicate with experts, scholars, and industry management, and penetrate industry technical requirements and professional ethics. For example, in the Internet of Things application design standards, the specific requirements for professional ethics include “being able to consciously abide by the rules and regulations of the enterprise and the confidentiality system of product development”, which not only involves the general rules and regulations of information technology - related enterprises, the confidentiality mechanism of product development, etc., but also includes special rules and regulations for special enterprises in the military industry, etc. Based on this, students will make accurate analysis and judgment in the “X” certificate evaluation and daily work, and truly abide by these rules and regulations from the bottom of their hearts.

Third, strengthen transformation. The current 1+ X certificate system and the integration of documentary evidence need to penetrate into the reform of the three education in vocational colleges, not only to strengthen the education and guidance of the Internet of Things professional teachers, but also to achieve the effective transformation of excellent educational and teaching achievements. Specifically, we can start from the following points: First, guide teachers to update their teaching concepts, improve their sense of responsibility, and focus on strengthening the training of teachers' professional skills and professional ethics. In terms of professional skills training, the result-oriented model can be adopted to guide teachers to fully grasp the OBE curriculum design and action-oriented teaching method, and apply it to actual teaching to strengthen the evaluation of application effects. Secondly, innovatively design modular courses, clarify the division of labor and arrangement of teachers, not only write teaching materials according to students' needs, but also focus on optimizing the course operation process, and continuously improve the quality and level of Internet of Things professional teaching materials. Furthermore, through the Internet of Things textbooks, the teaching reform and the 1+ X certificate system and documentary evidence integration work results are tested, and the process can be operated and the results can be replicated and promoted. Finally, to give full play to the role of vocational skills competitions, vocational colleges should actively organize teachers and students to participate in vocational skills competitions held at the national, provincial and municipal levels, and use vocational skills competitions to test the quality and level of IoT professional talent training. Teachers should also pay attention to sharing their own experience and experience in the vocational skills competition in a timely manner, stimulate the competition awareness of all teachers and staff, and continuously improve the quality and level of teaching.

3. Conclusion

To sum up, the implementation of the 1+ X certificate system for the Internet of Things major and the integration of documentary evidence is an important measure to implement the reform of the vocational education system. The curriculum system, strengthen the organic combination with the three education reform, continuously improve the implementation effect and level of the Internet of Things 1+ X certificate system and documentary evidence integration, and cultivate more innovative, skilled and conformable talents that meet the needs of social development.

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