

Evaluation Thinking and Strategy of Professional Construction of Internet of Things Engineering under OBE Concept

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Abstract: The major of Internet of Things engineering is becoming more and more important under the premise of contemporary information development, so the major of Internet of Things engineering needs to adapt to the latest development and adapt to the development stage of OBE education concept. Starting from the background of the professional construction of the Internet of Things engineering, this paper analyzes the evaluation status of the professional construction of the Internet of Things engineering, analyzes the evaluation ideas and strategies of the professional construction of the Internet of Things engineering under the background of OBE, and provides ideas for the professional construction and the promotion of the OBE concept.

Keywords: Internet of Things engineering; Professional construction; Evaluate; OBE

1. The background of the evaluation of the construction of the Internet of Things engineering

The world's social development is on the whole in the construction stage, and China's economic and social development is in the stage of shifting from high-speed development to high-quality development, and from the original extensive development model to a new development model. China's higher education is also in the "double first-class" construction, "new engineering" construction, "first-class undergraduate major" construction situation and background, all kinds of domestic university professional construction [1] is carried out in full swing, so the Internet of things, as an important direction to implement the new development concept, build a new development pattern and strengthen the self-reliance of high-level science and technology, as an important position of contemporary science and technology competition. As one of the directions of new quality productivity, it has a very urgent need for development and talent training. As the basis and support of talent training for the development of Internet of Things technology, the Internet of Things engineering profession must strengthen its sense of urgency and sense of mission, must strengthen professional construction and enhance the quality of talent training, must keep up with the development of The Times and scientific and technological progress, and must be based on Chinese characteristics.

The background analysis of IOT engineering professional construction evaluation is shown in block figure 1.

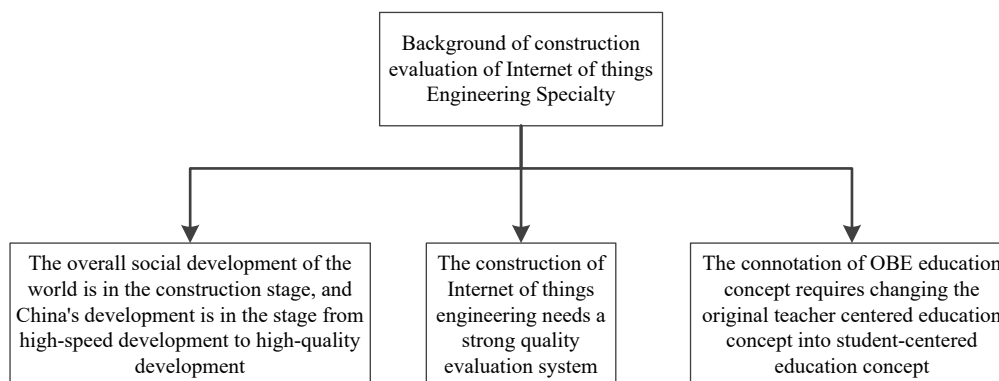


Figure 1. Background analysis block diagram of IOT engineering professional construction evaluation

The construction of Internet of Things engineering requires a strong quality evaluation system. Only through high-quality professional evaluation system can we lead the direction of professional construction, feedback professional quality and results, promote the integration of professional construction and economic and social development, and cultivate high-quality professionals with various aspects of satisfaction, so as to promote the curriculum reform of Internet of Things engineering [2], professional teaching research [3] and team building [4]. The Internet of Things engineering needs a good professional evaluation method, and only by making good use of the "perspective mirror" of the professional construction of professional evaluation can we combine other links of professional construction and jointly promote the quality and upgrading of the Internet of Things engineering.

OBE education concept [5-6], also known as results-oriented education, competency-oriented education and demand-oriented education, is a results-oriented education orientation, which emphasizes that if we want to see whether the effect of education management is good, whether the quality is high, and whether the goal is achieved, we should reverse the education process from the education results, the education link from the ability improvement, and the education step from the demand satisfaction. Change the original teacher centered educational philosophy to student-centered, change the original lifelong education concept to a dynamic and diverse feedback mechanism, and change the original one-time change education model to a continuous improvement education model. One of the core ideas of OBE education concept is to verify the process of results and guide the direction by results. This educational concept has similar connotations, similar goals, same orientation and same ideas as the quality evaluation method of professional construction.

2. The development status of professional construction evaluation of Internet of Things engineering

After more than 10 years of development, China's Internet of Things engineering has established a method of professional construction evaluation, which plays an important role in promoting professional construction [7]. Under the existing professional construction evaluation method, Internet of Things engineering trains a large number of professional talents for the country every year, and plays an important role in the economic and social development of the country. However, as shown in Figure 2, the following problems still exist:

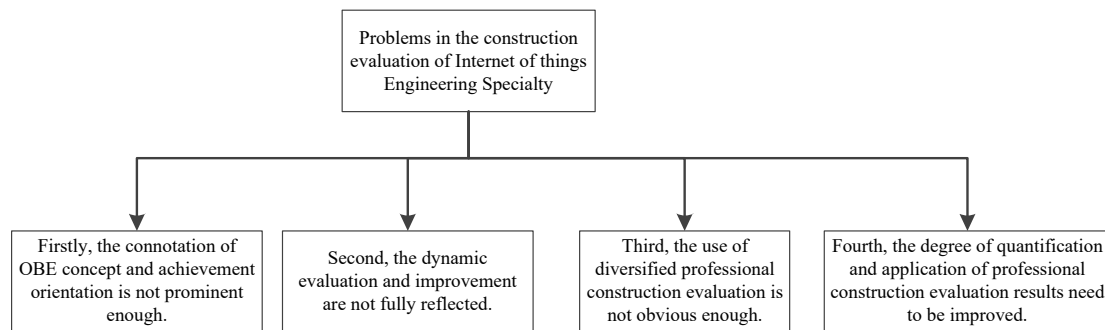


Figure 2. Block diagram of problems in the evaluation of the construction of the Internet of Things engineering major

First, the connotation of OBE concept and result-oriented is not prominent enough. OBE concept emphasizes goal-oriented, student-centered and continuous improvement of education. Although the traditional evaluation methods of professional construction are integrated into OBE concept, the degree of integration of the core connotation of OBE concept is not enough, and it is still in the "transition" from traditional evaluation of professional construction to new evaluation of professional construction. Although the traditional professional construction evaluation is reflected in the professional construction evaluation, there is still room for improvement in the application and embodiment of the results.

Second, the embodiment of dynamic evaluation and improvement is not enough. Dynamic educational evaluation refers to the thinking and method of non-one-time evaluation, which is the development and extension of traditional single evaluation, such as single result evaluation into dynamic evaluation, and one improvement into continuous improvement. The traditional evaluation method of professional construction is still single result evaluation, which takes major evaluation,

construction acceptance, platform project declaration, student graduation and other important time nodes for single evaluation. Although single acceptance can reflect the results of professional construction, there is still a gap in evaluation during the "gap period" between the important nodes of single evaluation. On the basis of a single result evaluation, the improvement of the professional construction problem is also intermittent, discrete and one-time, and there will be a gap period between the improvement nodes.

Third, the use of multiple professional construction evaluation is not obvious. The pluralism of participating subjects and the pluralism of evaluation stage lead to the complexity of education, especially higher education. In higher education, the competent departments, institutions of higher learning, teachers, students, students' families, student internship units, student employment units and other subjects participate and work together to complete the complete process of higher education. However, in the evaluation of professional construction, the competent departments, schools and teachers are mainly involved, so the suggestions and ideas of other participants have not been fully reflected. In the traditional educational evaluation, students are still mainly in school or in school, and students' school stage has limited reflection on the quality of educational achievements, which cannot fully reflect the relationship between professional training and students' development in the next ten years or even longer.

Fourth, the quantitative degree and application of professional construction evaluation results need to be improved. Major construction and evaluation is a systematic and comprehensive evaluation reflecting curriculum, teachers, experimental practice and other aspects. In the traditional process of major construction, quantitative indicators are generally reflected in major evaluation, inspection, certification and other important nodes, and the quantitative application of evaluation results is also reflected in the corresponding nodes. However, the quantification degree and scope of professional construction evaluation, in addition to the use of important nodes and ranges, can also expand the scope and use of professional construction indicators quantification, to achieve more data quantification, more information quantification, more stages of quantification in the whole process of professional construction.

3. The construction strategy of professional construction evaluation of Internet of Things engineering

The construction strategy for the evaluation of the construction of the Internet of Things engineering major is shown in Figure 3

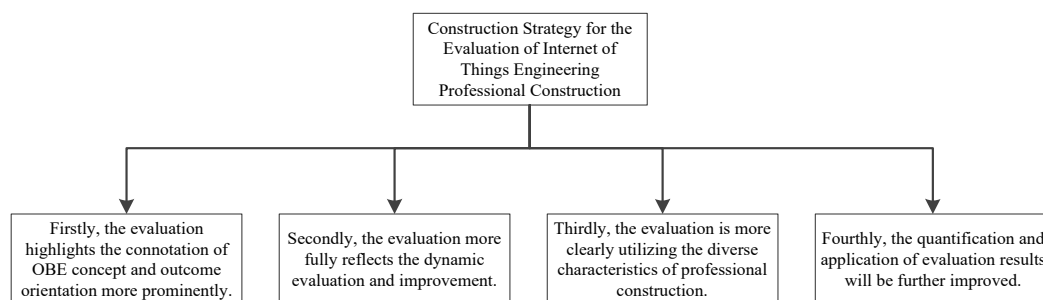


Figure 3. Construction Strategy Diagram for the Evaluation of IoT Engineering Professional Construction

First, the evaluation highlights the connotation of OBE concept and results-oriented. The concept of OBE emphasizes that education and teaching goals lead professional construction and professional development, so it is necessary to pay more attention to the goals and objectives of education, teaching, scientific research, social service and other links in the process of professional construction and education implementation, and pay more attention to the degree of connection and function with training goals. The setting and deletion of the corresponding links should be actively reconsidered for the educational and teaching links which are obviously not in line with the training purpose and lack of goal correlation; The education and teaching links which do not meet the training purpose and are less related to the goal should be set and carried out carefully. Teaching resources should be added to the education and teaching links that are in line with the training purpose and closely related to the goal. In the process of applying the OBE concept, we should pay attention to the professional characteristics and development characteristics of the Internet of Things engineering. In the process of using OBE

concept to evaluate, we should take into account many factors, such as the late establishment of the Internet of Things major, the rapid development and innovation of professional technology, and the insufficient maturity of the professional knowledge system structure, which make it relatively difficult to accurately evaluate the results of the Internet of Things engineering.

Second, the evaluation more fully reflects the dynamic evaluation and improvement. In the process of major construction and evaluation, one-time evaluation of important time nodes should be avoided as far as possible, and the time node of major evaluation can be extended to the whole process of major construction and student training, and the whole process of major construction evaluation can be carried out at the end of each semester, after large-scale adjustment of training programs, graduation of graduates, evaluation, professional certification and platform declaration. In the comprehensive rating of professional construction, attention should be paid to the use of the evaluation system of many time nodes, the full use of existing evaluation indicators and evaluation results, the initiative to integrate the evaluation results into the whole process of professional evaluation, do a good job in the entry of various evaluation data, and avoid the problems of "multiple submission of data, repeated submission of forms, and continuous modification of evaluation standards". After the evaluation of the whole process of professional construction, the problems found should be modified and improved in time, the continuous improvement under the whole process evaluation system should be highlighted, and targeted improvements should be made according to the evaluation results of different evaluation nodes, and the improvement standards should be accepted at the next node. In this process, it is necessary to pay attention to continuous improvement rather than repetitive work, and coordinate the whole process evaluation and whole process improvement.

Third, the evaluation makes more obvious use of the multiple characteristics of professional construction. In terms of the diversity of participants, it is necessary to take students as the center and starting point, make comprehensive use of the competent departments, colleges and universities, teachers, students, students' families, student internship units, student employment units and other subjects in higher education, and collect the evaluation and suggestions of corresponding subjects on the process of professional construction, education and teaching implementation, and student training. For different subjects, the suggestions are integrated into the corresponding links, and the competent departments and universities should pay attention to the opinions and suggestions on the direction, conditions and standardization of the Internet of Things engineering. Suggestions for teachers to pay attention to the professional construction, feasibility, and operability of the Internet of Things engineering major; Students should pay attention to the implementation of education and teaching, participation in education links and sense of experience. For students, families should pay attention to students' all-round quality improvement and ideological level; For student internships, internships, and employment units, attention should be paid to professional development direction, students' practical level, and employability. In terms of the diversity of evaluation stage, in addition to the necessary time node evaluation, we should pay attention to the long-term evaluation and long-term development of professional construction.

Fourth, the quantitative degree and application of evaluation results are further improved. In the process of professional construction, quantitative indicators can more obviously reflect the quality of professional development and the effect of professional construction. Therefore, in the evaluation of professional construction, all kinds of data should be fully used, and sorted and summarized to make all kinds of data more targeted and effective. In data quantification, we should pay attention to: first, we should grasp the purpose and connotation of data quantification. The most fundamental purpose of data quantification is to intuitively show the development law, deepen the understanding and improve and improve it. Therefore, we should not put the cart before the horse, quantize for the sake of quantification, make statistics for the purpose of predetermined results, and reverse the analysis method for the sake of advance rules. The second is to pay attention to the accuracy and embodiment of quantification, for the evaluation indicators that can accurately calculate the results can be used fixed score system, such as percentage system, ten points system; For the indicators evaluated according to the stage, the grading system should be adopted, such as the four-level system, the five-level system, etc. For indicators with only two state results such as qualified, the results are directly applied. After the evaluation of various indicators according to their characteristics, a unified result conversion or index calculation should be carried out to avoid moving the result conversion or index calculation process forward, so that some processes become entangled in specific scores and lose the characteristics of indicators.

4. Conclusion

The world's overall social development is in the construction stage, China's economic and social development is in the stage of high-speed development to high-quality development, from the original extensive development model to the new development model under the transformation stage, the need for the professional construction of Internet of things engineering needs a strong quality evaluation system, only through the high-quality professional evaluation system, in order to lead the direction of professional construction. At present, professional construction evaluation has shortcomings such as insufficient connotation of OBE concept and result-oriented, and insufficient embodiment of dynamic evaluation and improvement. Therefore, it is necessary to pay attention to the more prominent OBE concept and results-oriented connotation in the evaluation, the more fully reflect the dynamic evaluation and improvement, the more obvious use of the multivariate characteristics of professional construction in the evaluation, and the further improvement of the quantitative degree and application of the evaluation results. This provides a good idea and reference for professional construction.

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