

Problem Analysis and Construction Path of Professional Textbooks in Vocational Colleges under 1+X Certificate System

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Abstract: As the basic content of the three education reform, the textbook is an important guarantee to improve the training quality of qualified students in vocational colleges, a key carrier to implement the connection between 1+X certificate system and classroom teaching, and an urgent need to realize the integration of professional curriculum teaching and vocational skills. The main dilemma of the current 1+X certificate system lies in the lack of effective integration between academic certificates and vocational skill level certificates, and the construction of professional textbooks of vocational education is an important carrier to realize the integration of "1" and "X". After analyzing the problems of professional textbooks in vocational colleges, this paper explores the construction path of professional textbooks from the four aspects of textbooks positioning, content, form and evaluation, so as to ensure the development and vitality of vocational education textbooks.

1. Introduction

In 2019, the State Council promulgated the national vocational education reform implementation plan, which proposed to "Start the pilot work of 1+X certificate system in Higher Vocational Colleges and applied undergraduate colleges, encourage vocational college students to actively obtain various vocational skill level certificates while obtaining academic certificates." [1] However, the current implementation of the 1+X certificate pilot colleges and universities is not clear. The pilot colleges have not updated and adjusted the professional textbooks in time according to the 1+X certificate system, making the academic certificate "1" and the vocational skill level certificate "X" separated. The vocational skill level certificate has strong professionalism and independence. It is difficult to connect the vocational skill level certificate standard with the student training scheme, also to integrate professional teaching and skill training. The teaching staff, curriculum resources and training conditions of "1" and "X" cannot be synchronized. It increases the running cost of vocational colleges, the working pressure of teachers and the schoolwork burden of students.[2] Therefore, how to realize the organic integration of "1" corresponding professional curriculum teaching and "X" vocational skill training in school education is the key to the construction of professional textbooks of Vocational Education under the background of 1+X certificate system.

2. Interpretation of 1+X Certificate System

2.1. Concept Definition

The 1+X certificate system is an important innovation for Vocational Education in China, in which the academic certificate "1" and the vocational skill level certificate "X" are the relationship between foundation and expansion. [3] "1" is basic and subjective. Through academic education, students can have the knowledge, skills and sustainable development ability to engage in relevant majors; "X" has pertinence and guidance. Through the strengthening and improvement of students; vocational skills, vocational quality or new technologies, they can form specific basic vocational abilities. [1] In short, the 1 + X certificate system is both an education system and an employment system. This requires that vocational education should aim at meeting the market development and job needs, take professional

textbooks as the carrier of educational reform, and integrate the corresponding vocational ability into professional teaching. Finally, we could promote employment with education and develop education with employment demand.

2.2. Implementation Dilemma

Taking the post demand as the guide, while completing the academic education, it is an ideal blueprint for the 1+X certificate system to improve students; vocational skill level and specialization, and transport compound technical students for the society. However, there are two extremes in the process of pilot implementation: First, it pays too much attention to the subjectivity of "1" and weakens the professionalism of "X"; The second is the tendency of "certificated" learning caused by excessive emphasis on X. The main dilemma of the current 1 + X certificate system is the lack of effective reform carrier to realize the effective integration between academic certificate and vocational skill level certificate. Improving the training quality of compound students, implementing the connection between 1 + X certificate system and professional teaching standards, realizing the organic integration of professional curriculum teaching and vocational skill training, scientifically planning to promote the effective integration of "1" and "X", and deeply promote the construction and Reform of professional textbooks of vocational education are effective ways to solve the problems.

3. The Importance of Textbooks Construction in Vocational Education

3.1. Professional Textbooks are an Important Guarantee to Improve the Training Quality of Students

Improving the training quality of compound students in vocational colleges is not only the starting point of the construction of vocational education textbooks, but also the foothold of the construction of vocational education textbooks. The ultimate goal of 1+X certificate is to cultivate high-quality compound students. The cultivation of compound students needs to be supported by professional knowledge, and professional textbooks are an important carrier of professional knowledge. The contents covered in the professional textbooks are the basic requirements for the basic theories and basic skills necessary for students in the professional post requirements related to the specialty. They are the basic guarantee for the training of compound students in Vocational Colleges and the sustainable development, and an important guarantee for improving the training quality of compound students in vocational colleges. Therefore, we must attach great importance to the role of textbooks in vocational education and take the quality of professional textbooks as an important standard to evaluate the school running level and teaching quality of vocational colleges. Through the reform of professional textbooks construction in Vocational Colleges under the 1+ X certificate system, exploring the effective integration between academic certificate "1" and vocational skill level certificate "X" will help to improve the quality of compound students training in vocational colleges.[4]

3.2. Professional Textbooks are the Key Carrier to Implement the Connection between 1+X Certificate System and Classroom Teaching

Textbooks are the basis of the three education reform, an important starting point for the implementation of the 1+X certificate system in classroom teaching, and a key carrier for the connection between the 1+X certificate system and classroom teaching.[5] Exploring the implementation of 1+X certificate system lacks an effective reform carrier. There is a lack of supporting textbooks for course certificate integration, which makes the current classroom teaching and vocational skill training in a "two-line parallel" state, and the credit exchange is difficult to realize. The reform and construction of professional textbooks in vocational colleges is an important carrier to realize the integration of courses and certificates, meet the dual needs of students; professional courses and certificates, and promote the exchange of academic certificates and vocational skill level certificates. In addition, high-quality textbooks have important supporting value for the improvement of classroom teaching quality. Taking textbooks as the carrier, implement the student training scheme

conveying the spirit of 1+X certificate system into all links of teaching implementation, so as to make the educational objectives and teaching standards linked, continuously optimize the curriculum and classroom teaching content, and truly establish a connection between 1+X certificate and classroom teaching.

3.3. Professional Textbooks are an Urgent Need to Realize the Integration of Curriculum Teaching and Vocational Skill Training

Realizing the integration of course teaching and vocational skill training is not only the further concrete implementation of course certificate integration, but also the difficulty of current professional course classroom teaching. The pilot colleges should accelerate the organic connection between professional teaching and certificate skills training, so as to avoid the phenomenon of "two skins". In the construction of course certificate integration, we should avoid teaching on teaching theory in isolation and integrate for integration, but implement the specific integration into textbooks, and deal with the inseparable and mutually promoting relationship between course teaching and textbooks construction. Through the construction of professional textbooks and teaching contents, the requirements of vocational qualification certificates for skills are integrated into the teaching of professional courses, especially the contents of new technologies, new processes and new norms involved in the professional teaching process can be presented in a three-dimensional form, so that students can be closer to the professional standards in the process of receiving academic education, Improve students; professional skills and employment competitiveness. Therefore, the construction of professional textbooks in vocational colleges should be based on the teaching of professional courses, combined with vocational skills training, integrated into the assessment content of vocational qualification certificate as an expansion, and ensure the development of students' professional ability while imparting professional knowledge, so as to realize the organic connection between academic certificate and vocational qualification certificate.

4. Analysis on the Problems of Textbooks for Vocational Education

4.1. The Value Orientation of Textbooks is not Clear and the Development Ideas are Blind

In the process of professional textbook development, the value orientation of textbooks still stays at the level of knowledge carrier, and is not clearly distinguished from the value orientation of general education textbooks. That's to say, textbooks are still logically compiled with a systematic subject knowledge system, the content of textbooks has a high degree of integrity and systematicness. However, the compilers lack a correct interpretation of the 1 + X certificate system and fail to scientifically locate the textbooks and scientifically plan and arrange the contents of the textbooks according to the student training plan. Most of the existing vocational education textbooks are compiled by vocational college teachers and industry experts, their textbooks are too theoretical and professional, and lack a comprehensive analysis of the professional knowledge and professional ability required in the actual production, resulting in the disconnection between the textbooks and the actual production. Secondly, the textbook compilation process lacks the participation of 1+X certificate assessment institutions. Teachers, experts and scholars don't fully interpret the investigation scope and assessment standards of 1+X certificate, and fail to organically integrate the relevant vocational skill level requirements, assessment contents and standards into the textbook. The current value orientation of textbooks can not reflect the requirements of 1+X certificate system for student training, and can not highlight the ability standard view of type education.

4.2. The Content of the Textbook is Lack of Applicability and Divorced from the Reality of Production

The ultimate goal of the 1+X certificate system is to cultivate applied students with professional ability. However, most professional textbooks focus on the declarative knowledge of professional theory covered by "1" certificate, despise the presentation of procedural knowledge required for students to obtain "X" vocational skill level certificate, and pay less attention to the application of

knowledge in actual production. The content of the textbook places too much emphasis on the subject system of knowledge, which separates the knowledge and ability required in the process of the work.

The indirect experience obtained by students from textbooks is difficult to reverse output into direct experience, unable to build their own knowledge and skill system, resulting in the disconnection between theory and practice, and unable to solve the practical problems. In short, the overall content of the current textbooks can not fully reflect the "application" and "professionalism" of vocational education, weaken the type and educational characteristics of vocational education, and can not meet the requirements of 1+X certificate system for student training.

4.3. The form of Textbooks is Single, the Update is Slow, and the Subjectivity of Students is Ignored

At present, most textbooks are still presented in a single paper form. This form of textbook limits the speed of textbook updating and revision, fail to update the latest professional trends, industry cutting-edge technologies and other forward-looking contents in time, and can not reflect the modernity of textbooks.[6] The 1+X certificate system requires benchmarking the 1+X skill level standard and introducing the enterprise; as new technology, new standard and new process into the student training program classroom. Traditional paper textbooks can not meet the new demands of the development of Vocational Education in the new era. Under the limitation of traditional textbooks, it is difficult to change "textbooks" into "learning materials". Students can only use textbooks as materials for classroom learning, and limit the functions of textbooks to the traditional educational concept of "teachers teach and students learn". Students are always positioned in the position of passive learning.[7]

4.4. The Evaluation Dimension of Textbooks is One-sided, and the Feedback is Lack of Comprehensiveness

The evaluation dimensions of textbook evaluation content and evaluation subject are one-sided, and a perfect evaluation feedback mechanism has not been established. In terms of the content of textbook evaluation, the textbook evaluation pays too much attention to the presentation content and form of the textbook itself. On the subject of textbook evaluation, the participation of enterprise industry experts and experts from 1 + X certificate training institutions is not enough. At present, the textbook construction has not established a perfect update feedback mechanism. Under the 1+X certificate system, a high-quality professional textbook in vocational colleges should be a textbook conducive to improving the training quality of compound students in Vocational Colleges and improving students; professional ability.

5. Construction Path of Professional Textbooks for Vocational Education

5.1. Textbook Orientation: Textbooks from General Education to Type Education

The orientation of textbooks has changed from general education to type education to ensure the correct direction of textbooks construction. The orientation of textbooks should start from the essence of vocational education, closely follow the internal professional and applied characteristics of type education, and run through the compilation of vocational education textbooks. Correctly interpreting the policy of 1+X certificate system is the first step of scientific positioning. 1+X certificate system is the student training mode of Vocational Education in China, and the professional student training scheme is the overall design and implementation blueprint of student training in vocational colleges. The first thing to do well in the pilot of 1+X certificate system is to put the construction of textbooks into the overall design and overall consideration of the pilot implementation of 1+X certificate. After in-depth analysis and systematic research on the assessment scope, ability requirements, evaluation standards and other relevant contents of the professional skill level standard, re sort out the professional skill requirements, training objectives and training specifications.[2]

5.2. Textbook Content: Textbook from Static Storage to Situational Application

The content of textbooks has changed from static storage to situational application, so as to

strengthen the professionalism and practicability of textbooks construction. In order to guide students to self-construct the knowledge and skill system in the dynamic situational application, transform the indirect experience obtained in the textbooks into direct experience in the actual post practice, and develop their own professional ability, the cultivation role of emotion, attitude and values of the textbooks is further highlighted. The content of textbooks should not only follow the professional curriculum standards and the student needs of enterprise posts, but also meet the assessment standards of vocational skill level certificates. The construction of professional textbooks in vocational colleges should build a textbooks compilation mode of division of labor, cooperation and joint participation of "front-line teachers, industry experts, enterprise technicians and 1+X certificate evaluation institutions". By establishing the compilation mode of joint cooperation and mutual cooperation among multiple subjects, we can generally ensure the content quality of textbooks and strengthen the professionalism and practicability of textbooks construction.

5.3. Textbook form: from Traditional Paper to Three-dimensional and Diversified Textbooks

The form of textbooks has changed from traditional paper to three-dimensional and diversified, so as to meet the diversified learning needs of students. The 1+X certificate system itself has a certain timeliness. With the industrial development and technological progress, the content of textbooks needs to constantly add new technologies, new processes and new norms, and the layout form of textbooks needs to be constantly adjusted. Under the impact of the wave of educational informatization, three-dimensional textbooks are the inevitable trend of the development of vocational education textbooks. Turn textbooks into "learning materials", enhance the interactive function between textbooks and learning subjects, make students become learning subjects, and effectively improve students; learning enthusiasm. The three-dimensional textbooks are more complete and accurate in the information collection and learning effect evaluation of the whole teaching process, and the interaction between teaching and learning is more in-depth. Students can timely adjust their learning strategies according to their own learning situation, which can predict the learning effect and serve as a warning. At the same time, teachers can timely optimize teaching strategies according to teaching feedback, so as to teach students according to their aptitude. Three dimensional textbooks adapt to the new situation of the reform and development of vocational education and the rapid progress of information technology, follow the growth law of technical students and the cognitive characteristics of vocational college students, which can meet the personalized learning needs of students.

5.4. Textbook Evaluation: from Single Dimension to Multiple Feedback

Textbook evaluation changes from single dimension to multiple feedback to comprehensively ensure the construction quality of textbooks. Firstly, the evaluation of textbooks should be carried out from multiple dimensions. The evaluation content of textbooks shall meet the professional ability requirements and needs of professional posts, and be evaluated according to the ultimate goal of 1+X certificate. The evaluation of textbooks should not only consider the quality of textbooks, but also include the learning effect and employability of textbooks in practical teaching application into the textbooks evaluation system. Secondly, the evaluation of textbooks should establish a multi subject feedback mechanism. Textbook developers should pay attention to students; textbook use and feedback, so as to update and improve the textbook in time. 1+X certificate involves many related subjects. In textbook evaluation, a four in one evaluation mechanism of "teacher student enterprise certificate training institution" should be established to ensure the comprehensiveness, objectivity and effectiveness of the evaluation results. In addition, we should pay attention to the content of textbooks and evaluate the effectiveness of transformation.

6. Conclusion

Textbooks are the key carrier to support the reform of Vocational Education in the new era. Under the background of 1+X certificate system, the construction path of professional textbooks of vocational education is of great significance to improve the training quality of compound students,

implement the connection with professional teaching standards, and realize the organic integration of professional curriculum teaching and vocational skills. The author believes that we should correctly interpret the 1+X certificate system policy, accurately grasp the student training objectives, and shift the orientation of textbooks from general education to type education; Connect with the vocational skill level standards, and turn the static storage of textbook content to situational application; Meet the diverse learning needs of students, and the form of textbooks has changed from traditional paper to three-dimensional and diverse textbooks; The establishment of textbook compilation and feedback mechanism, textbook evaluation from a single dimension to multiple feedback. With the joint efforts of all parties involved in the construction of textbooks, the exploration of the construction of professional textbooks in vocational colleges will be deepened, and the path of building high-quality vocational education textbooks will be clearer.

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