

Overview of Research on Vocational Education Textbooks in China

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Abstract: The Ministry of Education in China has emphasized the need to strengthen the construction of vocational education textbook systems and innovate mechanisms for textbook writing, review, publication, and use. Textbook construction is a crucial aspect of fulfilling the fundamental task of cultivating well-rounded individuals and serves as a vital channel for cultural inheritance. While adhering to the principle of developing high-quality textbooks, it is also important to consider the characteristics of vocational education and create outstanding textbooks that align with the developmental patterns of students in vocational colleges. Building on these principles, this paper conducts research and provides an overview of vocational college textbooks in China. It integrates the content and value of vocational education textbooks, summarizes general principles for textbook construction, and contributes to the implementation of textbook development in vocational colleges.

Keywords: Vocational colleges; Textbooks; Three Education Reforms; Industry-Education Integration.

1. Introduction

Since the 18th National Congress of the Communist Party of China, the Party Central Committee with Comrade Xi Jinping at its core has attached great importance to the reform and development of vocational education, placing it in an unprecedented prominent position. General Secretary Xi Jinping, from the overall perspective of the development of the Party and the country, has made important instructions on vocational education on multiple occasions, and has visited vocational schools several times to make clear requirements for accelerating the development of vocational education. Based on this, the research on vocational education teaching materials has begun to be systematized and deepened. In 2019, the State Council issued the National Vocational Education Reform Implementation Plan (referred to as "20 Rules for Vocational Education"), which "advocates the use of new loose-leaf and workbook teaching materials and the development of supporting information resources" [1]. This has pointed out the direction for the reform of vocational education teaching materials. In 2021, the National Vocational Education Conference proposed to "deepen the reform of 'three education', comprehensively educate people through 'job-course competition and certificate', and improve the quality of education" [2], which is an innovation in the training mode of vocational education, and also broadens the path of high-quality development of vocational education.

2. Research History of Vocational Education Textbooks in China

From 2004 to 2023, a total of 8782 relevant articles were included in CNKI database, including 34 doctoral dissertations and 691 master dissertations related to the topic. The source of the literature was limited to "Peking University core", and a total of 772 relevant articles were included. The number and trend of published literature on the

research of vocational education textbooks included are shown in Figure 1 after eliminating papers unrelated to the theme.

The research of vocational education teaching materials has been concerned, during which there may be a decline, showing a fluctuating development trend. From the perspective of the promulgation of vocational education related policies, it can be found that the amount of published papers is positively affected by national policies, and the amount of published papers tends to increase positively after the introduction of policies. After further analysis, up to now, the research on vocational education textbooks in China takes ten years, which is roughly divided into three periods: 2004-2011 (initial period), 2012-2019 (exploration period), 2014-2023 (development period). The main topics are distributed in higher vocational colleges, teaching material construction, teaching material preparation and other aspects, involving accounting, computer technology application, trade and economy, tourism and other disciplines, accounting for half of the total number of papers.

2.1. Initial Period (2004-2011)

In the seven years from 2004 to 2011, the research of vocational education teaching materials in China was in its infancy. Before this, there were only 6 core journals for vocational college textbooks, which had a narrow reference range. By analyzing the relevant literature at this stage, it can be found that the research mainly draws on the general education textbooks, while the relevant research is not systematic. In 2008, after the Ministry of Education promulgated the Opinions of the Ministry of Education on Further Deepening the Reform of Secondary Vocational Education, the number of textbooks published on vocational education was considerable in the past four years. In the initial period, the research on vocational education teaching materials in China blossomed in many places, involving a wide range, and generally lack of depth.

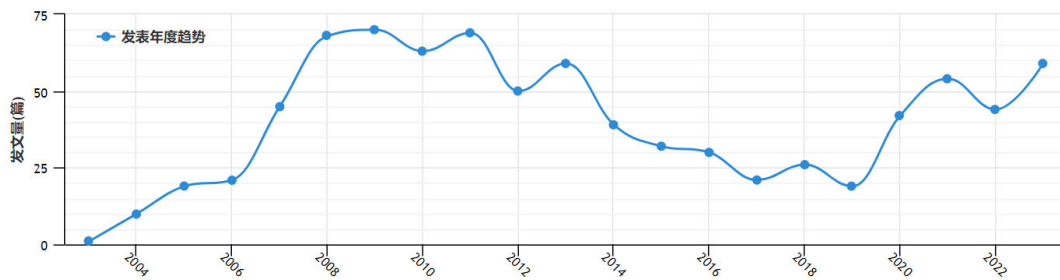


Figure 1. Volume analysis chart of "Vocational Education Teaching materials" in 2004-2023

2.2. Exploration Period (2012-2019)

In 2012, the Ministry of Education issued several Opinions on the Construction of Vocational Education Teaching Materials during the Twelfth Five-Year Plan, proposing to innovate the form of teaching materials and select the teaching materials of vocational colleges; in 2013, the Ministry of Education banned the introduction of unqualified teaching materials into middle and higher vocational classrooms; in 2015, the experts of the Ministry of Education emphasized not to guide vocational education. In 2017, the 19th National Congress of the Communist Party of China clearly required the improvement of the vocational education and training system, and the establishment of the National Teaching Materials Committee. Since then, the research results on vocational education teaching materials have been on the rise. This period of time, the school-age population gradually decrease, secondary vocational enrollment shrinking, the education policy adjustment in China, in view of the vocational education teaching material research no longer adapt to the dimension of the development of the limit, and for various reasons not timely indicate the development direction of vocational education teaching material, lead to the importance of vocational education teaching material research relatively lower. The policy change leads to the research direction of researchers, which reduces the attention to the research of vocational education textbooks. However, it is worth noting that although the number of studies at this stage is not as large as in the previous period, it is relatively deep.

2.3. Development Period (2019-2023)

At the end of 2019, the Ministry of Education promulgated the Measures for the Administration of Teaching Materials in Vocational Colleges, marking that the construction of teaching materials in vocational colleges in China has entered a stage of standardized development. The Measures focus on standardizing the compilation of teaching materials in vocational colleges, which proposes to "advocate the development of new forms of loose pages and manual books". It is of great significance to comprehensively and deeply understand the background, connotation and characteristics of the concepts of loose-leaf and manual textbooks for guiding all units to compile high-quality vocational college textbooks.

Through the above background of the development of vocational education new textbooks comb it is not hard to see, the vocational education teaching material present form from the lack of attention, to gradually attention, to now "the national vocational education reform implementation plan" and the vocational education quality culture optimal action

plan (2020-2023), points out that the development of vocational education new style and new work manual textbook this clear direction and planning, the social from all walks of life to vocational education attention, enough to reflect the state and society for the attention of vocational education teaching material development research.

3. Connotation of Vocational Education Teaching Materials

Traditional teaching materials are defined as "teaching material is the carrier of knowledge". In school education, teaching materials, teachers and students are the three basic elements in teaching activities, and they are also one of the basic elements of teaching quality. Teaching materials can have a substantial impact on teaching activities and teaching quality. In contrast, Zhao Mengcheng believes that vocational education teaching materials are defined as "the content integration of multiple dimensions of morality, intelligence and technology", whose specific meaning should be the complete content of morality, technical skills and knowledge, the organic integration of multiple dimensions of content, and the mutual integration should adopt the combination of explicit and recessive methods. Vocational education has long been popular with single textbooks, and compound and integrated textbooks are more in line with the needs of the working world, can meet the needs of cultivating high-quality skilled talents, and also in line with the holism curriculum view[3]. Fan Zhujun advocated that the high-quality teaching materials of vocational education can fit the characteristics of vocational education types, break the traditional employment-oriented textbook management mode, broaden the career development path of technical and skilled talents, and lay a foundation for their long-term career development[4]. In general, the connotation of vocational education teaching materials mainly includes five aspects as shown in Figure 2. First, the cultivation of professional quality, which specifically explains that vocational education teaching materials should pay attention to the cultivation of students' professional quality, including moral quality, professional ethics, professional consciousness, professional spirit and other aspects. The second is vocational skills training, which mainly means that vocational education textbooks should pay attention to the cultivation of students' practical operation skills, including technical operation, skill application, skill innovation and other aspects. The third is the imparting of vocational knowledge. Vocational education teaching materials should impart the relevant theoretical knowledge, including the knowledge related to vocational skills and the knowledge related to vocational education. The fourth is

vocational practice teaching, that is, through practical operation, experiment and other ways to let students better understand and master the knowledge and skills learned. Fifth, career development guidance, vocational education teaching materials should provide students with guidance including career planning, career selection, vocational training and other aspects. Therefore, the quality of teaching materials affects the quality of talents training in schools to some extent.

Through the above comb, it is not hard to see that our country attaches great importance to the reform and development of vocational education teaching materials, hope that vocational education teaching materials in the new era can better serve the "applied" talent cultivation, strengthen vocational education as an independent type of education status in our education system, to speed up the pace of the construction of a lifelong learning society.

Table 1. Connotation of vocational education teaching materials

The connotation of vocational teaching materials	embody
Professional quality training	Professional ethics, professional consciousness, professional spirit
Vocational skills training	Technology operation, technology application, skill innovation
Vocational knowledge teaching	Knowledge related to vocational skills and vocational education
Vocational practice teaching	lab. proc
Career development guidance	Career planning, career selection, and vocational training

4. The Research Value of Vocational Education Teaching Materials

Textbook, as the carrier of teaching content, is an important basis for the development of teaching activities. It plays a pivotal role in teaching activities. The emergence of various teaching materials not only enriches the teaching forms, but also brings a variety of choices for the development of students' learning. In general, it is of great significance to study the vocational education teaching materials.

4.1. The study of vocational education teaching materials is an inevitable requirement of the reform of "three education"

The "Vocational education 20" clearly put forward the requirements of the "three education" reform, and the reform of teaching materials is an important aspect of the "three education" reform. At present, as the carrier of talent training, some teaching materials still have problems such as emphasizing theory over practice, disconnection between the content of textbooks and production, and insufficient function of education, which seriously affect the high-quality development of vocational education. Therefore, it is urgent to reform teaching materials[5]. Through the study of vocational education teaching materials, the reform goal of "three education" can be realized, and the quality of vocational education can be improved.

4.2. The research of vocational education teaching materials is a realistic need for deepening the integration of industry and education

Vocational education is a kind of type of education, and its most distinctive feature is the crossover, and only by deepening the integration of industry and education can the crossover of vocational education be realized."Vocational Education 20" proposed to "promote schools and enterprises to comprehensively strengthen in-depth cooperation". As an important part of the reform of "three education", the reform of teaching materials is of great significance to the development of vocational education. However, from the perspective of the practice of industry-education integration,

there are still problems such as emphasis on form integration rather than substance and lack of long-term integration mechanism. Therefore, to deepen the integration of industry and education, we must promote practical innovation and find a breakthrough to solve the problem. Such as through the study of vocational education teaching material, coupling, industry, education, competition and certificate, strengthen the researchers to participate in the curriculum objectives, personnel training plan formulation link, and participate in the talent output evaluation link, more highlight the vocational education professional, practicality, adhere to the "dual" subject cooperation principle, multiple collaborative writing mechanism, promote new loose, manual development of textbook, to deepen the reform of the teaching material, can continue to promote the reform of vocational education teaching. Therefore, the study of vocational education textbooks is conducive to the integration of production and education to achieve high-quality development[6].

4.3. The study of vocational education teaching materials is an important way to realize the ideological and political courses

The Action Plan for Improving the Quality and Training of Vocational Education (2020-2023) proposes to "strengthen the cultivation of professional ethics, professional quality, professional behavior habits, and no less than 16 hours of special education on professional spirit, craftsman spirit and model worker spirit"[7]. On the one hand, the vocational education teaching materials can determine the curriculum objectives from the four dimensions of ideological and political accomplishment, knowledge goal, ability goal and professional accomplishment, which are in line with the requirements of The Times[8]; On the other hand, the results of teaching materials timely incorporate new technologies, new processes and new norms of enterprises into the teaching materials, paying attention to the excavation of ideological and political education elements. In a word, under the background of ideological and political education, the textbook integrates ideological and political elements into the aspects of curriculum objectives, content selection and structure organization, which can basically realize the whole process of education.

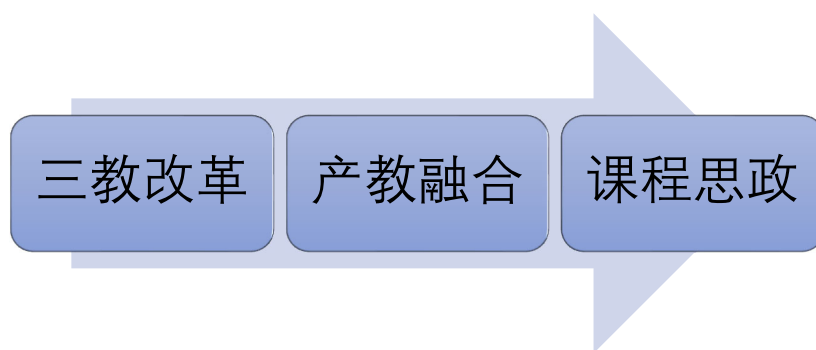


Figure 2. Research value demonstration of vocational education teaching materials

5. Principles of Building Teaching Materials in Vocational Colleges

The principles of the vocational education textbook research institute will guide the construction of different textbooks. After a long time of development, the research on vocational education materials has gradually formed a systematic line from scattered points, and the value orientation and main style of vocational education materials have gradually formed. It can be found that for the research of vocational education materials, researchers mainly suggest that the construction of teaching materials should adhere to the following principles:

5.1. Attach importance to the principle of procedural knowledge

Cui Kaizhou believes that the teaching materials of vocational colleges have the characteristics of occupation and education. In the development practice of vocational education teaching materials, there is the phenomenon of transplanting the teaching materials of ordinary colleges and universities, which deviates from the basic principle of teaching students in accordance with their aptitude[9]. Knowledge has its inherent logic, and the cultivation of practical skills also has its inherent logic. The textbook should be compiled by which logic, and should see whether the textbook is suitable for general education or vocational education. For vocational education, the best way is to let students learn in interesting and challenging practical activities. Excessive emphasis on systematic knowledge is not conducive to mobilizing the enthusiasm of students, and is not conducive to the cultivation of students' practical operation skills. At present, the writing process of most higher vocational textbooks is separated from theory and practice. For the teachers who have mastered the knowledge and skills, this kind of classification is clear, but for the vocational college students who are studying, this kind of classification does not conform to the learning psychology. By completely separating theory from practice, students often learn theory from the lowest level to the highest level. When conducting experiments or practical training, they cannot find the part of the knowledge to guide practice from the tedious theory. Therefore, in the vocational education materials, the procedural system should replace the statement system to inject life and vitality into the vocational education materials. In addition, Lu Junjie advocated that we should focus on updating goal setting, logical reconstruction of technical knowledge, logical reconstruction of practical training, thinking and extension exercises, so as to continuously promote the continuity and stereoscopic of procedural knowledge, so as to better cultivate technical and skilled

talents needed for economic and social development in the new era[10].

5.2. Professional principles of teaching materials

According to Li Yufang, the study of the professional principles of vocational education materials mainly includes four requirements: before the compilation of textbooks, the production practice should be investigated, the professional knowledge and special ability required by the vocational post group should be scientifically analyzed, and the technical requirements of the corresponding national vocational qualifications should be analyzed. In the selection of teaching materials, the job should be the skill requirements of national vocational qualification; third, it should be clear that the theoretical knowledge serves the ability training, and the principle of "necessary and sufficient"; fourth, the practical knowledge and skills should be based by the project, and the students should do it themselves[11]. To sum up, the teaching material should highlight the professional characteristics, is conducive to teaching and learning, in the whole learning process, let the students mobilize all kinds of senses, hand and brain, improve learning efficiency, at the same time let the students from the learning process to pursue their own practical purpose, to explore thinking, cultivate independent thinking ability and innovation ability

5.3. The spiral principle of the content of the textbook

Since the ability of the educational subject is improved in a spiral, Zhao Jian and Yang Xueqin believe that the textbook should be compiled into the content according to the order of difficulty and the psychological acceptance of students. In the preparation of each project, the skill operation and the necessary theoretical knowledge content alternate from easy to difficult, step by step, which is the spiral principle of the content of the textbook[12]. on the whole, The spiral principle in the textbooks of vocational colleges, Generally contains three aspects of the requirements: one is to dismember the knowledge system, Focusing on realizing the goal of higher vocational talent training, Starting from the knowledge, ability and quality required by talents, Analyze the knowledge and ability structure required for professional positions, Break down the various knowledge points and skill points that students need to learn into one difficult and different practical training projects; Second, the order of teaching materials should be first easy before difficult, from shallow to deep, from simple to complex, from classification to comprehensive, gradual development, Strive to meet the level of knowledge and ability level of most students; Third, the presentation mode of teaching materials should adopt the alternating mode

of knowledge and practice content, Theory and practice alternate, Intuitive and abstract appear, Make the students know why, Thus realizing the organic combination of theory and practice, Enter a spiral of learning cycles.

5.4. The principle of elasticity

In addition to the above three principles, some scholars, such as Liu Rongcai and Zhou Li, also mentioned the flexibility principle of vocational textbooks[13], Including three aspects: first, the textbook should pay attention to the students' personality differences, According to the different needs of students at different levels and in different development directions, Arrange training programs of different forms, different levels, different efficacy and different time, To facilitate vocational colleges and students to make diversified choices; Second, each item in the textbook should be separated from the knowledge according to the degree of difficulty, From easy to difficult, So that students with different learning progress can easily choose their own content; Third, the textbook should be incorporated in the introduction of the knowledge and skills of the textbook and the development direction of the knowledge of the textbook, To provide the necessary reference for students with different learning progress.

6. Conclusion

Review the development of vocational education teaching material in China, is able to continuously solid foundation, short board, strength, young advantage, is not only due to the new era of China's economic and social historic changes, the historic achievements to vocational education teaching material development provides a huge demand and solid conditions, also because of vocational education development always build a complete system as the core task and logic. The reform of teaching materials is a systematic project, which involves the principle of teaching materials design. In particular, it is necessary to combine the "three teaching" reform ideas proposed in the Implementation Plan of National Vocational Education Reform, and to combine the teaching materials reform with the curriculum teaching reform to be truly effective. In the future, with the development of society and the continuous change of career needs, vocational education teaching materials will be more close to the reality, reflecting the latest development of the industry and the forefront of technology. This also requires that research should focus on the diversified development of industries and provide a wider range of teaching materials to meet the needs of different industries and professions. Future research should focus on the combination of teaching materials and practice, and improve the students' practical operation ability and problem-solving ability through practical teaching methods and case studies. Since each student's learning needs and interests are different, the method of personalized and customized textbooks should be explored, and according to the characteristics and needs of students, personalized textbook content and learning resources should be provided to improve the learning effect and learning motivation. To sum up, the development trend of the research of vocational education teaching materials in China in the future is likely to focus on the content of diversified teaching materials, the integration of teaching materials and practice, the

personalized customization of teaching materials and the evaluation and feedback mechanism of teaching materials, so as to promote the development of vocational education and improve the learning effect of students. The reform of vocational education teaching materials is imperative and has a long way to go, which requires the joint efforts of researchers and teaching personnel.

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