

Development and Implementation of the Standard of “Double-Qualified” Teachers in Vocational Education in China

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Abstract: With the rapid development of manufacturing industry in China, a lot of special works with advanced technology and skills are demanded. This paper elaborates the background of developing “Dual-Qualified” teacher (DQ teacher) standards. From the three levels of national, local and school, the current situation of DQ teacher standards is systematically reviewed, and the implementation of existing standards and related government documents is also analyzed, which result in the conclusions that Chinese national standards (GB) for DQ teachers need to be formulated speedily, local Standards (DB) need to be formulated combined with local industrial economy, the operation specifications and evaluation indicators need to be optimized and the long-term tracking standards and assessment indicators should be contained in school-level standards (QB). The research results of this paper can be a reference to build a “double-qualified” teacher evaluation system and improve the quality of DQ teachers synergistically by our national, local governments and schools.

Keywords: DQ Teachers; Technical and Skilled Workers; Vocational Education; Evaluation and Identification; Standardization

1. Introduction

Nowadays, China is in a period of deepening reform. Talent is the key to promoting structural reform, adjusting and optimizing the industrial structure and maintaining medium-high speed economic growth. However, there is a severe lack in skilled workers in China, especially the serious shortage of high-quality compound and innovative technical talents, which restricts the upgrading of China's manufacturing industry[1]. DQ teachers are the practitioners of cultivating technical and

skilled talents. In recent few years, although the scale and quality of vocational education teachers have been significantly improved, there are still some problems of focusing on quantity, neglecting quality, holding complete qualifications but weak practical ability, which is because of the lack of the standards for scientific evaluating and correctly guiding DQ teachers to improve their abilities.

There exists many academic research about the standardization of evaluating and identifying DQ teachers. For example, Zhou Kexin[2] analyzes the problems of identification standards of DQ teachers in vocational colleges in Jilin, Anhui and other five provinces. [3] constructed a DQ teacher Competence Model with six dimensions, including practical literacy, scientific research ability, professional construction literacy and innovation literacy, and 23 factors. Based on above model, the evaluation, promotion and performance evaluation of DQ teachers was carried out. However, there is still a gap on the standardization research of DQ teachers who export formal national standards and industry standards. In this paper from the perspective of standardization research, the “double” teachers at various levels of standard development and implementation of present situation and cause analysis, and from the national, industry and school level, the direction of the standard development, standard for the gripper, national, regions, schools, jointly promote “double” teacher quality improvement.

2. Background on the Development of Standards for the DQ Teacher

2.1 The Rapid Economic Growth Has Spawned a Multitude of Technical and Skilled Talents

Since the beginning of the 21st century, global technological development has never been more intensive and active. New

technological revolution and industrial transformation are reshaping the global innovation landscape and reshaping the global economic structure. Facing to the technological and industrial transformation, technical and skilled personnel have become an important foundation in the new development pattern. At present, China is facing the embarrassing situation of "labor shortage" and "structural unemployment", and improving the development and utilization of technical and skilled personnel has become the focus of the situation [4].

The current demand for technical personnel in Chinese society is stronger than ever before. The National Vocational Education Conference held in 2021 put forward the concept and strategy of building a skilled society[5]. Technical and skilled personnel are an important support for the construction of a skilled society. In 2018, Tang Tao, vice Minister of the Ministry of Human Resources and Social Security, attended the press conference on the Opinions on Improving the Treatment of Skilled Workers held by The State Council Information Office, saying, "There are 770 million employed people, 165 million skilled workers, and more than 47 million highly skilled personnel. Two of these three sets of data can be compared in the international world. One is skilled workers, namely skilled workers account for about 20% of the employed people, while highly skilled personnel only account for 6%. These two proportions are relatively low." On Feb. 26th, 2021, at the press conference on employment and social security held by The National News Office, it was pointed out that the employment ratio of technical & skilled talents was higher than 2:1, i.e. at least two jobs were waiting for one technical & skilled talent [4].

2.2 DQ Teachers are the Key Force for the Cultivation of Technical & Skilled Talents

Under the birth of the rapid economic development, for the need of constructing a team of high-quality professional teachers, the concept of the DQ teacher that not only have professional knowledge and technical skills, but also can combine theory with practice has come up. In 1995, "Principles and opinions on building demonstrative vocational colleges" issued by The National Education Board proposed that a

demonstrative vocational college must own a team made up by full-time and Part-time teachers both with high-quality in a reasonable structure. Professional course teachers and experiment instructors both have certain professional practice ability, of which more than 1/3 are DQ teachers[6]. Then, the government has issued a series of policies to promote the construction of DQ teachers because DQ teachers provide a strong talent guarantee and intellectual support for the transformation of vocational education. However, compared with the new demand for vocational education reformation in this new era, there are still some problems: The number is insufficient, the source is single, the two-way flow of vocational colleges and enterprises is not smooth, the structural contradictions are prominent, the management system and mechanism are not flexible, and the professional level is low. Especially, there is a shortage of DQ teachers and teaching teams with both theoretical and practical abilities, which has become a severe restriction of the development of vocational education.

2.3 Standard is a Powerful Way to Guide the Cultivation of DQ Teachers

Standards provide a public rule for social economic activities, and play a fundamental and guiding role to improve the Modernization level of national governance framework and capacity [7]. "Double" teachers break the traditional teacher evaluation requirements, should not only have the corresponding theory teaching and practice teaching ability, and to have enterprise related work experience, or actively into enterprise and production service line post practice, can timely new technology, new technology, new specification into the teaching, the evaluation and recognition of the multi-dimensional, multi-level, multifactor content, need through the standard this form[8]. And with standards as the starting point, through the joint promotion of national and local education departments, schools, enterprises, students and other interests, to guide and cultivate high-quality DQ teachers that meet the needs of technical and skilled talents' growth, and

adapt to the law of the development of vocational education.

3. Current Status of Formulating Evaluation Standards for DQ Teachers

Although the history of the DQ teacher has been of 30 years in China. There exists a lot of research on the evaluation of DQ teachers, but the relevant national and local standards are still relatively rare, because the evaluation is difficult to cover the comprehensive, the indicators are difficult to quantify and the particle size is difficult to unify.

3.1 Current Status of National Standard Formulation

In October 2022, The Chinese Ministry of Education issued the Notice on The Identification of DQ Teachers in Vocational Education, attached the Basic standard for DQ teachers (probationary) [9], which provides programmatic requirements for the evaluation of DQ teachers. Under this

program, all local governments and schools have formulated local standards and school standards in line with local economic development and school construction.

However, at present, the formal national standard (GB) and industry standard have not yet been formed in the evaluation and identification of DQ teachers. It is urgent to speed up the pace of standard development, and provide a series of formal standards for the evaluation and identification of DQ teachers.

3.2 Current Status of Local Standard Formulation

Zhejiang, Henan, Shandong, Liaoning, China and other provinces took the lead in exploring the evaluation and identification of DQ teachers, and formulated local standards. By searching the "National Standard Information Public Service Platform", there are only 6 local standards for DQ teachers, as shown in Table 1.

Table 1 List of Local Criteria for DQ Teachers

Order number	Standard number	Standard name	centralized unit / competent department
1	DB2107/T 0013-2023	DQ teacher engineering practice ability training standard	Jinzhou Education Bureau
2	DB3301/T 0175-2018	"Double teacher" teachers intelligent logistics enterprise post practice training service standard	Hangzhou Municipal Development and Reform Commission
3	DB3205/T 1045-2022	Ability requirements and evaluation standards of dual system vocational education teachers	Suzhou Municipal Market Supervision and Administration Bureau
4	DB41/T 1817-2019	E-commerce vocational education teacher training and training norms	Henan Provincial Market Supervision and Administration Bureau
5	DB3708/T 36-2023	Guidelines for full-time teachers to build the pre-service capacity in higher vocational education	Jinan Education Bureau
6	DB2107/T 0016-2024	Standards for the construction of skilled teachers' studios in vocational colleges and universities	Jinzhou Education Bureau

National Ministry of Education issued "vocational education" double "teachers basic standard (Probationary)", Fujian, Henan, Jilin, Xinjiang, Guangxi, Guangdong, Jiangxi, Beijing and other provinces of the provincial education administrative department in combination with the local specific situation, and different education levels, professional categories, etc., with reference to revise the

corresponding level "double" teacher standards, implementation measures, clear support, classified evaluation, according to the object, develop "double" teachers that detailed rules for the implementation.

The relevant documents of standards for identifying DQ teachers issued by local governments. The identification standards are not lower than the basic standards stipulated by the state, and the exceptional

conditions are clarified according to the actual conditions[10].

Table 2 Relevant Documents on the Identification Standards of DQ Teachers Issued by the Provincial Education Administrative Departments

Order number	Filename	Printing and distributing departments
1	Measures for Identifying the DQ Teachers in Vocational Colleges in Beijing (Probationary)	Beijing Municipal Commission of Education
2	Identification Standards For The DQ Teachers In Middle Vocational Schools	Chongqing Municipal Education Commission
3	Accreditation Standard of the DQ Teachers in Vocational Education in Gansu Province (Probationary)	Gansu Provincial Department of Education
4	Basic Conditions for Identifying the DQ Teachers in Vocational Education in Sichuan Province (Probationary)	Sichuan Provincial Department of Education
5	Implementation Measures for Identifying the DQ Teachers in Vocational Education (Probationary)	Fujian Provincial Department of Education
6	Standard of "Double Teacher" for Vocational Education in Jiangsu Province (Probationary)	Jiangsu Provincial Department of Education
7	The Standard for identifying the DQ Teachers in Vocational Education in Jiangxi Province (Probationary)	Jiangxi Provincial Department of Education
8	Implementation Measures for the Identification of DQ Teachers in Vocational Education in Hebei Province (Probationary)	Hebei Provincial Department of Education
9	Implementation Rules for Identifying the DQ Teachers in Vocational Education in Henan Province (Probationary)	Henan Provincial Department of Education
10	Implementation Measures for Identifying the DQ Teachers in Vocational Education in Shandong Province (Probationary)	Shandong Provincial Department of Education
11	Anhui Province higher vocational education DQ teacher identification standard	Department of Education Anhui Province
12	Tianjin vocational education DQ teacher identification standard	Tianjin Municipal Education Commission
13	Jilin Province vocational education DQ teacher identification standard	Jilin Provincial Department of Education
14	Measures for the Identification and Administration of the DQ Teachers in Vocational Colleges of Xinjiang Uygur Autonomous Region (Probationary)	Xinjiang Uygur Autonomous Region Department of Education
15	Guangxi secondary vocational schools DQ teacher identification standard	Guangxi Zhuang Autonomous Region Department of Education

3.3 Current Status of University-Level Standards

Similar to local standards, there is no colleges and universities about "double type" teachers that field standard, but part of the vocational school reality, formulated the "double type"

teachers that the work file, from the scope, conditions, qualifications, materials, effective time, that procedures, supervision mechanism, etc. See Table 3 for the relevant documents of the standards for identifying the DQ teachers formulated by some vocational colleges.

Table 3. Relevant Documents of the Standards for Identifying the DQ Teachers Formulated By Some Vocational Colleges

Order number	Filename	School
1	DQ teacher identification standard	Ningbo Polytechnic
2	Interim Measures for constructing and identifying the DQ teachers	Nanchang Vocational University
3	Implementation Rules for identifying the DQ	Yunnan Sanxin Vocational and

	Teachers (Probationary)	Technical College
4	Measures for the Identification and Management of the DQ Teachers (Probationary)	Tangshan Preschool Teachers College
5	Administrative Measures for Identifying the DQ Teachers (Probationary)	Guizhou Vocational and Technical College
6	DQ teacher identification and management method	Guangdong NanHua Vocational College of Industry and Commerce
7	Identification and management of "double teachers and double ability teachers"	Liaoning Polytechnic University
8	Interim measures for the identification of "double teacher and double ability type" of teachers	Guangdong Polytechnic Normal University

4. Implementation Status of DQ Teacher Standard

4.1 The Recognized DQ Teachers May Not Have the Matching Dual-Qualified Ability

Under the framework of the Basic Standards of the DQ Teachers in Vocational Education (Probationary) of the Ministry of Education, as the main operating institutions have formulated the identification conditions that are easy to "operate". However, according to the "identification standards" for DQ teachers formulated by the existing colleges and universities, the content of the identification standards and the promotion standards of professional titles are homogenized[11], With professional technical position certificate, engineering series technical position certificate, professional qualification certificate, honorary certificate, hosted the "project", "paper", etc., and around the "theoretical teaching ability and practical teaching ability" evaluation index few or difficult to quantify, make the results of the real teachers' "double quality", directly affects the quality of the construction of teachers "double".

Taking Ningbo Vocational and Technical College as an example, it has formulated the DQ teacher identification standard suitable for the school[8]. Because of a fact that the identification standards is not strongly associated with the ability of the DQ teachers, the identification effect of the DQ teachers is not good, that is, the DQ teachers through the identification do not necessarily have the corresponding DQ ability.

4.2 The Efficiency of DQ Teacher Enterprise Practice Has Not Been Fully Played

Although the evaluation criteria of DQ

teachers also require teachers to have the experience of "enterprise practice", the content of most "enterprise practice" has little correlation with teachers' work skills. However, in the identification standard, the "time" of practice (effective proof is required) or the acceptance is conducted in the way of "teacher report". As a result, the accumulated time of teachers to participate in enterprise practice meets the requirements, and the improvement effect of teachers' practical ability is not good. The specific reasons for the poor effect are as follows: first, the purpose of the practice is not clear, or the practice purpose has nothing to do with the promotion of professional core skills; second, the practice is in the form of "visiting" the enterprise and not participating in the work practice; third, the acceptance form of "practice" is "report" without the content of "skill" assessment. Thus formed the current vocational school teachers have rich experience in enterprise practice, but the actual ability to solve the enterprise product research and development and technological innovation is insufficient[8].

In addition, teacher enterprise practice and student practice are often two skins, did not achieve organic combination, effective docking. As the practice of teachers and enterprises is mostly a formality and has little effect, it is impossible to transform the harvest of enterprise practice into teaching resources and promote the connection between education transformation and industrial transformation. The practical ability of the DQ teachers also demands to be substantially improved through the optimization and clarity of the identification standards.

4.3 Static Evaluation cannot Guarantee the Continuous Improvement of the Ability of the DQ Teachers

Due to the existing types of "double" teachers standards are one-time static evaluation standard, not defined after a period of "double" teachers sustainable development activities and need to achieve the standard, many through the recognition of teachers after the title of "double" teachers "lie flat", no longer continue to the corresponding promotion, lead to some teachers after that "double" ability decline phenomenon. In view of this situation, the Ministry of Education requires the establishment of a dynamic adjustment mechanism that can enter and out, up and down, and re-identification of the DQ teachers should be implemented in no more than 5 years[9]. In the future, this requirement will also be formally written into the DQ teacher identification standards.

5. Conclusion

The concept of DQ teacher was clearly put forward in 1995 by the former State Education Commission in the Notice on the Construction of a Demonstration Vocational University, which has a history of nearly 30 years. In the past 30 years, the development of vocational education in China has been paid more and more attention, and the evaluation and recognition of the DQ teachers have also received more and more attention. Through extensive research, collect combed China's current "double" teacher evaluation and recognition of the national standards, local standards, and related policy documents, by the standards and implementation can be seen that China about "double" teachers evaluation that policy documents, but the formal national standards, local standards and school standards is quite scarce, exist in the implementation of the "double" teachers do not necessarily have to match the double ability, enterprise practice efficiency is not give full play, static evaluation cannot guarantee ability to improve a series of problems.

In the future, according to the formulation and implementation of the DQ teachers standards in China: at the national level, accelerate the introduction of national standard (GB) for evaluation and identification of the DQ teachers; at the local level, the standards for the DQ teachers (DB) should be combined with the local industrial economy, rather than just the replication of the national standards; while at the school level, as the implement

subject, the requirements, the specifications and the evaluation indicators for the DQ teachers should be further optimized. The long-term tracking scheme should be covered in the evaluation indicators. By means of standards, the country, regions and schools will make joint efforts to promote the quality improvement of the DQ teachers.

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