

The Construction of a "Double Qualified Teachers" Team in Application-oriented Universities Under the "1 Plus X" Certificate System

Yao Wang¹ Qiang Dou²

¹ Xi'an Fanyi University, Xi'an, Shaanxi 710105, China

² Xianyang Normal University, Xianyang, Shaanxi 712000, China

ABSTRACT

The teaching purpose of application-oriented universities is to deliver high-quality applied talents to the society. The implementation of the "1 plus X" certificate system is crucial to improving the quality of talent cultivation in such universities. To fundamentally improve the cultivation capabilities of such universities, it is necessary to create a high-quality team of "double qualified teachers". However, the construction of "double qualified teachers" team in application-oriented universities is not ideal at present. There are still different interpretations of the "double qualified teachers" team, insufficient cultivation and introduction systems, and insufficient teacher training quality, as well as incomplete qualification authentication and reward systems. In this regard, application-oriented universities can take the statement of the "1 plus X" certificate system in the National Vocational Education Reform Implementation Plan as an entry point, starting to establish a correct concept of "double qualified teachers" team, improve the talent introduction and cultivation system, improve the training quality of "double qualified teachers", and strengthen talent assessment and incentive measures, etc., to finally improve the quality of their "double qualified teachers" teams.

Keywords: *The "1 plus X" certificate system, Application-oriented universities, "Double qualified teachers" team.*

1. INTRODUCTION

As stated clearly in the National Medium and Long-term Education Reform and Development Plan (2010-2020), "we should unceasingly optimize our higher education structure, expanding the cultivation of application-oriented, composite, and skilled talents", which was for the first time that application-oriented talent cultivation was incorporated in nationwide important files. [1] In 2019, the State Council issued the "National Vocational Education Reform Implementation Plan", proposing to "transform a large number of general universities into application-oriented universities by 2022" to improve the cultivation system of high-level applied talents. In response, trial pilots were carried out in many application-oriented universities, raising a wave of reform in application-oriented universities. [2] "The principles and ideas of a university are

implemented and realized by teachers [3]." The professional level of teachers directly determines the quality of talent cultivation. Whether application-oriented universities can raise their teaching level to a new level and whether the teaching reform can be achieved are directly restricted by the teaching level, ability, and quality of teachers. [4] In recent years, there have been numerous academic studies on the construction of a "double qualified teachers" team. However, most of them concentrated in higher vocational education. Only a few studies were about the construction of a "double qualified teachers" team in application-oriented universities and these studies were not conducted systematically. For newly-built application-oriented universities, a systematic theoretical guidance and mature methodological support are urgently required to create a "double qualified teachers" team. [5] For newly established universities, transforming the teachers into "double

qualified teachers" is undoubtedly the foundation and guarantee for improving the quality of running schools and cultivating outstanding applied talents.

2. THE "1+X" CERTIFICATE SYSTEM AND THE CONNOTATION OF "DOUBLE QUALIFIED TEACHERS" IN APPLICATION-ORIENTED UNIVERSITIES

The "1+X" certificate system is defined as the "academic certificate + vocational skill level certificates" system, where "1" represents the academic certificate and "X" represents vocational skill level certificates. [6] The "1+X" certificate system unifies the criteria for academic education and social talents. It reflects the characteristics of vocational education in the integration of industry and education, school-enterprise cooperation, work-study alternation, and combination of theory and practice. It is essentially a combination of the education system and employment system.

"Double qualified teachers" include two types. The first type is dominated by school and requires teachers to have both the experience of practical operation and the ability to transfer theoretical professional knowledge. The second type is dominated by enterprises, that is, full-time teachers are mainly responsible for teaching theoretical professional knowledge and providing practical operation skill-related training in school while enterprises can complement applicable professional knowledge while providing students with practical training. This cultivation model is called a dual system. In China, "double qualified teachers" have been defined as a team of teachers who have both the abilities of engineering & technical workers and full-time teachers. [7] These teachers must not only have solid theoretical knowledge and strong teaching ability, but also have the professional skills and practical ability of engineers.

In January 2019, the State Council issued the "National Vocational Education Reform Implementation Plan", pointing out that "double qualified teachers" in application-oriented universities are "teachers with both theoretical teaching and practical teaching abilities." [1] This is the first time that the vocational characteristics of "double qualified teachers" in application-oriented universities are macroscopically described at the government level. "Double qualified teachers" in application-oriented universities should have solid

basic theoretical knowledge, high teaching level, and certain scientific research capabilities, as well as the major-related practical work ability and rich practical work experience. Application-oriented universities should learn from the concept of integration between industry and education and cooperation between school and enterprises adopted in vocational education to cultivate full-time teachers into those having solid theoretical foundation and applied research and technology transformation capabilities and encourage teachers to acquire vocational skill level certificates, thereby forming a "dual-qualified" teacher team more suitable for talent cultivation in universities.

3. RESEARCH DESIGN

This study was conducted on 7 application-oriented universities in western China (including 4 public schools and 3 private schools) by means of questionnaire surveys and in-depth interviews. A comprehensive survey was made on the personnel structure, appointment and selection, training, as well as assessment and incentives of their teacher teams to probe into the status quo of "double qualified teachers" in such universities. The questionnaire adopted a self-compiled questionnaire "Survey on the Construction of "Double Qualified Teachers" Team in Application-oriented Universities". For trial, a test was conducted on 20 "double qualified teachers" selected from Xi'an Fanyi University and Xianyang Normal University. Then, the questionnaire was modified and adjusted based on the test results and feedback to ensure that the questionnaire had a good reliability and validity. In the formal survey, our research team distributed the questionnaire to 7 application-oriented universities based on the preliminary statistics and planning, and invited "double qualified teachers" to fill it. The teachers participating in the survey were selected in a method ensuring the balance and representativeness of their schools, disciplines, majors and other dimensions. Finally, EXCE and SPSS were used for data entry and analysis, and draw the results into charts. In this survey, a total of 283 copies of questionnaire were distributed, and 267 valid copies were recovered. Based on the data and information acquired from the questionnaire survey, problems and the basic status quo were made clear. Further, interviews were made with the teachers to enrich and deepen the information that could not be obtained by questionnaire survey, interpret confusions, and find the causes of the problems. After the interviews and questionnaire survey were

completed, the above data and information were sorted and analyzed to analyze the existing problems in the construction of "double qualified teachers" teams in application-oriented universities and find the reasons.

4. PROBLEMS EXISTING IN THE CONSTRUCTION OF A "DOUBLE QUALIFIED TEACHERS" TEAM IN APPLICATION-ORIENTED UNIVERSITIES

It is found that there are problems in the construction of "double-qualified" teachers in application-oriented undergraduate universities in four aspects: the overall structure of the teacher team, the system of teacher appointment and selection, the training mechanism of teachers and the system of teacher evaluation and incentive.

4.1 Unreasonable Structure of the Entire "Double Qualified Teachers" Team

The questionnaire survey results show that there were unreasonable structures of "double qualified teachers" teams in application-oriented universities, which were mainly reflected in the insufficient number of "double qualified teachers", unreasonable academic structure, low internationalization level, and the low proportion of part-time teachers. For example, the "Opinions on guiding the transformation of some local ordinary universities into application-oriented universities" requires that "double qualified teachers" in application-oriented universities should account for more than 50% of the total number of teachers. [8] The Questionnaire data show that 6 of the 7 universities failed to meet the said requirement. The lowest proportion of "double qualified teachers" in one university only accounted for 16.2% of the total number of teachers. Such proportions in other universities were all about 30%. All the 6 universities failed to meet the school-running requirements for application-oriented universities in this regard.

4.2 Incomplete Appointment and Selection System for "Double Qualified Teachers"

For "double qualified teachers" in application-oriented universities, there were still shortcomings at the "entry end" (i.e., the appointment and selection system), such as inconsistent certification

system, highlighting academic qualifications rather than ability in teacher recruitment, and the single source of teachers. At present, China has no definite certification system and ability requirements for the appointment and selection of "double qualified teachers". Therefore, the universities have great autonomy in the appointment and selection of such teachers. Most application-oriented universities had issued identification and management measures for "double qualified teachers", which however were different, showing certain phenomenon of "doing things in their own way". Due to the lack of a unified certification system for "double qualified teachers", such universities could not recognize the qualifications of "double qualified teachers", which hindered the subsequent step to normalize and complete the competence examination and assessment criteria for such teachers within the territory of a province. As also, provincial education authorities were also hard to formulate targeted policy and management system for such teachers.

4.3 Unsound Training Mechanism for "Double Qualified Teachers"

The main difference between "double qualified teachers" and ordinary theoretical teachers is that the former has high practical and applied abilities. However, survey data shows that 65.71% of "double qualified teachers" in application-oriented universities are academic and research-oriented talents who have no front-line practical work experience. Therefore, providing on-the-job training for such teachers is particularly important. However, the current teacher training conducted by application-oriented universities still has many problems such as lacking pertinence, poor effectiveness in form and content, and insufficient training time, making the training effect on cultivating "double qualified teachers" significantly reduced".

4.4 Immature Assessment and Incentive System for "Double Qualified Teachers"

If the appointment and selection of "double qualified teachers" is the "inlet" of the construction of a "double qualified teachers" team and teacher training is the "intermediate link", the assessment and incentive of "double qualified teachers" is the "outlet" of the construction of this team. As revealed in the survey data, there still hadn't been

mature assessment and incentive systems for "double qualified teachers" in application-oriented universities. In some universities, "double qualified teachers" were only authenticated without assessment. In some other universities, the daily work assessment and year-end assessment of "double qualified teachers" were the same as those of ordinary teachers and there was no targeted incentive system. These facts greatly affected the enthusiasm of teachers for professional development and the transformation progress of the universities.

5. CAUSES OF THE PROBLEMS EXISTING IN THE CONSTRUCTION OF A "DOUBLE QUALIFIED TEACHERS" TEAM IN APPLICATION-ORIENTED UNIVERSITIES

It is a systematic project to build "double-qualified" teachers in application-oriented undergraduate universities. After full investigation, some deep reasons for the existing problems have been dug out.

5.1 Insufficient Material Support for Practice

According to the theory of teacher professionalization, individual teachers cannot achieve professional development without active learning in a good external environment. For "double qualified teachers", the school's practical facilities and fund are undoubtedly important parts of the external supports required for teachers' professional development; for colleges and universities, teachers' professional development is the key to improvement of entire teacher team. Therefore, a good material support is the starting point for a transformation pilot university to create a "double qualified teachers" team. However, application-oriented universities are generally newly-built provincial universities with limited financial allocations and insufficient funds so that the funds for creating a "double qualified teachers" team cannot meet the actual demand.

5.2 Unsmooth Channels for Introducing Teachers

The channels for constructing a "double qualified teachers" team can be divided into two types macroscopically: 1) talent introduction and

teacher training within the school, and 2) recruitment of part-time teachers outside the school and school-enterprise cooperative training. At present, such channels are still not smooth: First, universities lack a sense of autonomy and innovation in talent introduction. Academic degree, research achievement, and titles are still highlighted in talent introduction. Meanwhile, the universities have restricted autonomous right in talent introduction. Second, regarding the external channel, part-time teachers are difficult to manage, the cooperative enterprises have low enthusiasm for cultivating such teachers, and the school-enterprise cooperative cultivation effect is limited. The two phenomena jointly lead to the poor construction effect of such teacher team.

5.3 Incomplete Institutional System

First, the local education departments haven't formulated specific target planning and assessment standards for the construction of "double qualified teachers" teams in application-oriented universities so that the construction of such teacher teams has not followed a macro-institutional standard. Second, many application-oriented universities are exploring the construction of such teacher team. They only authenticate such teachers without assessment and different universities have different authentication criteria. Some universities have formulated authentication and management measures for "double qualified teachers" but have unclear answers about the professional development of such teachers as well as the criteria for performance assessment and incentives for such teachers. They do not have a complete and powerful institutional regulation to normalize the entire ecological layout of "double qualified teachers".

5.4 Insufficient Subjective Awareness

The construction of a "double qualified teachers" team in application-oriented universities not only requires the combined efforts of material conditions and institutional structures, but is also closely related to the ideological understanding and conceptual innovation of the teachers. Application-oriented universities fail to understand their school-running orientation and the teachers lack the identity of "double qualified teachers". Moreover, due to the school-enterprise cooperation model, teachers attached insufficient importance to their social responsibilities, hindering the construction of such teacher team.

6. COUNTERMEASURES FOR CONSTRUCTING A "DOUBLE QUALIFIED TEACHERS" TEAM IN APPLICATION-ORIENTED UNIVERSITIES

Based on the successful experience of some universities at home and abroad, starting from the government, universities, enterprises, teachers and other relevant subjects, this study puts forward the following countermeasures and suggestions for the construction and optimization of "double-qualified" teachers in application-oriented undergraduate universities.

6.1 Strengthening Governmental Management and Policy Guidance

In China, most application-oriented universities are under the supervision of the provincial government, the provincial department of education and other departments. The establishment and transformation of local universities are driven by the administrative power from top to bottom. To promote the construction of a "double qualified teachers" team, it is necessary for the provincial government to fulfil its responsibility in the following aspects: the first is providing special fund for teacher transformation, completing the school-enterprise cooperation associated policies, and changing the unfavorable situations of fund lack and incomplete supporting policies in transformation pilot universities; the second is normalizing the "double qualified teachers" certification standards, establishing and completing a teacher training and incentive system, and making up for the institutional details for the construction of "double qualified teachers" teams; the third is erecting a communication bridge between school and enterprises, realizing a full cooperation between industry, school, and research, and creating a good social environment of enterprise-school cooperation under governmental coordination; the fourth is getting rid of the constraints of traditional system, expanding the autonomy of universities in running schools, delegating autonomous management authority to universities, and taking multiple measures to jointly accelerate the construction of "double qualified teachers" teams in application-oriented universities.

6.2 Innovating the Development Ideas of Universities and Completing the Teacher Management System

Application-oriented universities are the parts constructing the "double qualified teachers" teams and the key to successful transformation of the traditional teacher team. Thereby, universities must do the following points: the first is to make overall plans, clarify their school-running orientation, change their school-running ideas, innovate ideas, and deeply understand the essential connotation and social requirements of application-oriented universities; the second is to optimize the teacher structure, broaden talent introduction channels, and innovate talent introduction method to attract, retain, and use talents; the third is to build a practical training platform to improve the effectiveness of training, continuously complete the teacher training model under school-enterprise cooperation to improve the quality of "double qualified teachers", innovate the assessment and incentive model, incorporate the "1+X" The certificate system into the assessment system, reform the management system for "double qualified teachers", and combine the teachers' assessment system with incentive system to create a good environment for teacher development.

6.3 Updating the Ideas and Practical Experience of Teachers

Teachers are the main objects in the construction of a "double qualified teachers" team in application-oriented universities, and are the internal factor and key to the success of the construction. Only when teachers change their thinking, identify with the concept of "double qualified teachers", and continuously improve their "double qualified " level in practice can external factors such as the governmental support, the institutional design of universities, and the coordination with enterprises play their role fully. Hence, teachers in application-oriented universities should do the following points: the first is to change their intrinsic thinking and concepts, forming a sense of identity as a "double qualified teacher"; the second is to strengthen their practice orientation and study hard to obtain the "1+X" certificates, enhancing their initiative in professional development; the third is to highlight their characteristics and carry out application-oriented scientific research; the fourth is to innovate the enterprise-school cooperation to improve their practical teaching capabilities.

7. CONCLUSION

The construction of a "double qualified teachers" team is an important way to promote teacher growth. Only teachers with solid theoretical foundation and excellent practical skills can meet the requirements of application-oriented universities for "double qualified teachers". The implementation of the "1+X" certificate system has brought opportunities and challenges to teachers in such universities. In the new situation, teachers in application-oriented universities must change their ideological concepts in time, actively optimize their knowledge structure, and actively improve their teaching abilities to contribute to China's education reform. Application-oriented universities should incorporate the "1+X" certificate system into relevant assessment system, adopt attractive reward measures, formulate management measures for the teacher team, give full play to the advantages of school-enterprise cooperation, and practically construct a high-quality "double qualified teachers" team.

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REFERENCES

- [1] Office of the National Medium and Long-term Education Reform and Development Planning Outline Workgroup. National Medium and Long-term Education Reform and Development Planning Outline (2010-2020) [EB/OL]. http://www.moe.gov.cn/srcsite/A01/s7048/201007/t20100729_171904.html. (in Chinese)
- [2] Notice of the State Council on Issuing the National Vocational Education Reform Implementation Plan [J]. www.gov.cn. 2019(6):9-16. (in Chinese)
- [3] Zhong Binglin. Newly-established Undergraduate Colleges Should Put Great Emphasis on Their Connotation Development and Quality Promotion — An Analysis Based on the Result of Qualification Assessment on 41 Undergraduate Colleges [J]. *China Higher Education Research*, 2015(06): 68-72. (in Chinese)
- [4] Zhao Pengjie. Analysis of the Path for Teaching Ability Development of English Teachers in Application-oriented Universities — Taking Guilin Tourism University As An Example [J]. *Data of Culture and Education*, 2017(20): 214-215, 220. (in Chinese)
- [5] Wang Qiuqing. Research on the Construction of "Double Qualified Teachers" Team in Transformation Pilot Universities in Gansu Province [D]. Lanzhou University, 2022. DOI: 10.27204/d.cnki.glzhu.2022.001808. (in Chinese)
- [6] Notice of Four Departments Including the Ministry of Education on Issuing the "Implementation of the Pilot Plan for the "Academic Certificate + Vocational Skill Level Certificates" System in Colleges and Universities [EB/OL]. http://www.gov.cn/zhengce/content/2019/02/13/content_5365341.html. (in Chinese)
- [7] Li Na, Li Yang. Research on the Construction of "Double Qualified Teachers" Team in Application-oriented Universities Based on the Coordinated Development of Beijing, Tianjin and Hebei [J]. *Ability and Wisdom*, 2020(16):199. (in Chinese)
- [8] The Ministry of Education, the National Development and Reform Commission, and the Ministry of Finance. Opinions on Guiding the Transformation of Some Local Ordinary Universities into Application-oriented Universities [EB/OL]. (2015-11-13) [2021-09-17]. (in Chinese)