

Evaluation of Application-Oriented Teacher: State Survey and Improvement Strategy

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ABSTRACT The local colleges and universities have already reached a consensus on the importance of improving the "application-oriented" quality of teachers. Owning an applied type of teaching team is not only the key to the reform of education and teaching in applied undergraduate colleges, but also the inherent requirement of the construction of applied teaching staff. Based on the experience of the construction of "double qualified" teachers in higher vocational colleges, the framework of application-oriented teacher evaluation system is constructed and the evaluation observation points are determined. At the same time, according to the data of the school's accreditation results, the paper summarizes the current characteristics of "application-oriented" teachers, and puts forward the improvement strategies of the evaluation system.

1. INTRODUCTION

"Double qualified" teachers are the characteristics and key points of teaching staff construction in higher vocational colleges. The applied teacher is a reference and innovation for the construction of "double qualified" teachers. In 1995, China put forward the concept of "double qualified teachers" for the first time in the notice of the State Education Commission on the construction of demonstrative vocational colleges. At present, higher vocational colleges have made relatively fruitful achievements in building double qualified teachers. In order to meet the training needs of applied talents, local undergraduate colleges draw on the experience of "double qualification" teachers' qualification accreditation and development evaluation in vocational colleges, and actively explore the construction of applied teaching staff. The construction of application-oriented teacher team emphasizes that teachers should not only have solid theoretical foundation, but also have strong professional practice experience and practical work ability, pay attention to the ability to transform theoretical knowledge into practical work ability, and guide students to carry out professional practice, innovation and entrepreneurship or carry out social services. With the development of application-oriented undergraduate education, it is the key to deepen the education and teaching reform to have an application-oriented faculty.

2. Policy background of Evaluate Application Oriented Teacher

At present, local colleges and universities have reached a consensus on the importance of improving teachers' Application-oriented quality. In June 2014, the State Council issued the decision on accelerating the development of modern vocational education, and clearly pointed out that "we should take the means of pilot promotion, demonstration and guidance, guide a number of ordinary undergraduate colleges and universities to transform into application-oriented colleges and universities, and focus on undergraduate vocational education". In 2015, the Ministry of education, the Ministry of Finance and other departments issued the guiding opinions on guiding some local ordinary undergraduate universities to transform into application-oriented ones. It also puts forward the transformation and development task of strengthening the construction of "double teachers and double abilities" teachers' team, and points out that "the application-oriented undergraduate colleges should adjust the structure of teachers, reform the appointment system and evaluation methods of teachers...". At the same time, applied undergraduate colleges should enhance the initiative and

enthusiasm of teachers in improving their practical ability through teaching evaluation, performance appraisal, job title evaluation, salary incentive and school enterprise communication. In the process of building a guiding evaluation index system for Applied Undergraduate Colleges in Zhejiang Province, it is put forward that the proportion of teachers who are "double teachers and dual abilities" and the practical experience of industrial enterprises will not be less than 70%. In 2016, the Zhejiang Provincial Department of Education issued the "13th Five-Year" development plan for higher education in Zhejiang province. The plan focuses on strengthening the construction of Application-oriented Colleges and universities, and promoting the construction of Application-oriented Colleges and universities. In addition, the application-oriented major accounts for more than 70% of the number of majors in the pilot universities, and the number of students studying in the application-oriented major accounts for more than 80% of the number of students in the school. In 2017, the general office of the State Council issued several opinions on deepening the integration of industry and education. Among them, the opinions put forward "to encourage qualified local areas to explore the special post plan for industrial teachers (tutors)", and "to explore the teacher qualification standards and professional and technical post evaluation and employment methods that meet the characteristics of vocational education and Application-oriented Universities". According to the implementation plan of national vocational education reform issued by the State Council, the recruitment principle of relevant professional teachers in Vocational Colleges and application-oriented undergraduate colleges can be appropriately relaxed from 2019, and the recruitment of new graduates will be basically stopped from 2020.

In addition to team building requirements, relevant documents also put forward the construction, assessment and evaluation mechanism. In 2018, the opinions of the CPC Central Committee and the State Council on comprehensively deepening the construction and reform of teachers in the new era was released. In terms of improving the professional quality and ability of teachers, it is further pointed out that "establish a mechanism for colleges and universities and industrial enterprises to jointly cultivate dual teacher type teachers; effectively promote the regular practice of Vocational College Teachers in enterprises, and constantly improve the practical teaching ability; establish a part-time system for enterprise managers, technical experts, vocational college managers and key teachers".

3. The Internal Motivation of Evaluate Application Oriented Teacher

In order to strengthen the construction of application-oriented universities, our school has vigorously promoted the construction of applied teachers in recent years through such initiatives as industry university research cooperation and application-oriented curriculum construction. However, with the advancement of the construction of applied teachers, the corresponding evaluation system of applied teachers needs to be established urgently.

3.1 Scientific evaluation index system of application-oriented teachers needs to be established to guide the professional growth of application-oriented teachers

We analyze and reflect on the current situation of applied teachers. From the perspective of teaching and research level, the structure of application-oriented teachers is not reasonable, and the proportion of high-level teaching and research achievers is low. Moreover, teachers' achievements are more focused on Teachers' textual research and horizontal projects. The first problem we are facing is how to establish a scientific and systematic evaluation index of application-oriented teachers, and how to establish a channel to promote the professional growth of application-oriented teachers according to the evaluation index.

3.2 Strengthen the effective attention to the cultivation of students' application ability and put the effect of the construction of application-oriented teachers on the ground

The final goal of the construction and evaluation of application-oriented teachers should be how to combine the construction of teachers' team with the construction of courses and the cultivation of talents, so as to improve the effect of talents cultivation.

At present, the trend of teacher evaluation in the world is to change from the traditional "input-based" evaluation process to an "output-based" evaluation process, and to organically combine the measurement of student achievement with teacher evaluation. Some developed countries pay special attention to teachers' behaviour, teaching quality and teaching performance in order to promote students' academic achievement [1].

At present, the existing evaluation indexes of application-oriented teachers are used to increase the evaluation of practical ability only on the basis of the traditional evaluation of teachers' teaching level and scientific research level, but on the whole, the contents of the indexes are narrow, lack of the goal of the construction and evaluation of the quality of application-oriented teachers, lack of effective attention to the cultivation of students' application ability, and the application-oriented teachers effectively promote the cultivation of students' ability. The role has not been effectively played.

3.3 Establish an effective incentive and collaborative management mechanism to promote the implementation of Evaluate Application Oriented Teacher

In our school, the overall structure of the construction of applied teachers is to take the curriculum construction as the carrier, according to the "team curriculum" overall construction idea, build the application-oriented curriculum system to support the training goal of students' professional core competence, and practically implement the construction of applied teachers into talent training. At present, in practice, the personnel department is responsible for the identification and assessment of application-oriented teachers, and the educational administration department is responsible for the construction of application-oriented courses and teams. It is necessary to further study and explore how to form the resultant force of the application-oriented teacher team from the system through the effective application teachers' recognition and assessment methods.

To sum up, teachers are the key to the development of application-oriented universities. However, there are some problems such as unclear evaluation objectives, unscientific evaluation standards and imperfect evaluation subjects. Combined with the development characteristics of application-oriented teachers, the construction of the application-oriented teacher evaluation system in a hierarchical and classified way is not only conducive to the organic combination of teaching, scientific research and service society, promoting the professional growth of application-oriented teachers, but also conducive to the construction of application-oriented teachers, promoting the quality of application-oriented personnel training, so as to improve the level of application-oriented construction of schools as a whole.

4. Survey on the Construction of Application-Oriented Teachers

4.1 Build the framework of application-oriented teacher evaluation based on Classification

On the basis of clarifying the connotation of application-oriented teachers, the design principles of application-oriented teacher evaluation index system are defined first, then the ideas and framework of application-oriented teacher evaluation are proposed, and finally a scientific and effective application-oriented teacher evaluation index system is designed.

4.1.1. Clarify the connotation of application-oriented teachers

At present, in our country, the "double qualification" teachers have various definitions, such as "dual title", "dual quality", "double certificate theory" and "dual ability theory", which are more representative of the Ministry of education's "double quality" standard, Lu Shuang Ying's "comprehensive element view" standard and Liu Yong's "grade setting" standard. Among them, the

Ministry of education's "double teacher quality" standard puts forward requirements for the working experience, double certificates and application of achievements of double teacher teachers [2]. And Lu Shuang Ying's "comprehensive element view" standard requires the dual quality teachers to integrate teaching, scientific research, practical application and educating people. It points out that skill operation ability in Teachers' practical ability is the most basic and core ability [3]. In addition, according to Liu Yong's "grade setting" standard, the formation of "double teacher" quality of every double teacher is a step-by-step process. Following the law of "double teacher" quality training, the "double teacher" teachers are divided into three levels: primary, intermediate and senior.

4.1.2 Determine the design principles of application-oriented teacher evaluation index system

Adhere to the goal-oriented principle as the premise, so that the establishment of indicators and weights in the evaluation system can reflect the strategic objectives and work focus of the school in different periods and different development stages. In order to effectively implement the application-oriented teacher team and team building into talent cultivation, the research will focus on promoting the ability cultivation of students, focusing on whether the ability and achievements of teachers can be transformed into talent cultivation, and implementing it into professional education and curriculum teaching, which is reflected in the teaching link [4].

Adhere to the principle of systematization, consider the characteristics and differences of application-oriented teachers in different levels, categories and disciplines, and combine the explicit and implicit indicators [5].

Adhere to the principle of combining dynamic and static, guide each teacher to pursue professional growth and progress purposefully from the perspective of basic qualification and development assessment, on the basis of meeting the basic standards.

4.1.3 Improve the classification and grading evaluation framework of application-oriented teachers

The quality requirements of application-oriented teachers vary with different positions or specialties, and the quality and mission of application-oriented teachers vary with different levels. Based on the four dimensions of professional knowledge, professional ability, professional quality and professional development, the basic conditions and professional standards for the classification and classification of application-oriented teachers are formulated. According to the different characteristics and development direction of teachers in practical work, the application-oriented teachers are divided into application-oriented teaching, application-oriented research and application-oriented technology. From the perspective of teacher development, application-oriented teachers are divided into four levels: admission level, primary level, intermediate level and senior level. At the same time, the corresponding qualification subsidies are provided to explore the construction of a scientific application-oriented teacher echelon development pattern and form a "three types and four levels" classification and grading evaluation framework.

4.2 Determination of observation points

Based on the principles of goal orientation, systematization, dynamic and static combination, the research refines the application-oriented teacher evaluation index. On the basis of full investigation and in-depth interviews with experts and scholars, university administrators and teachers, statistical analysis selects the evaluation indicators that best reflect the connotation characteristics of application-oriented teachers.

The index system is divided into two parts. The first is qualification standard, which is static, mainly from the perspective of education background, professional title, work experience, skill level, etc. The second is the assessment standard, which is mainly considered from the perspective of teachers' development. It will be divided into five dimensions: teaching standards, scientific research, practical ability, talent development and morality level. There will be several secondary indicators under each primary indicator, and the design of each evaluation indicator can be collected, quantified and compared.

Table 1 Assessment-oriented standards for application-oriented teachers

First goal	Criterion	Secondary goal
"Application" teacher evaluation C	Teaching standards B1	Classroom teaching workload B11
		Practical teaching workload B12
		Teaching Evaluation B13
		Teaching skills B14
		teaching research B15
	Scientific research level B2	Vertical issues B21
		Horizontal issues B22
		Papers and books B23
		Patent B24
		Scientific research B25
	Practical ability B3	Corporate work experience B31
		Enterprise practical experience B32
		Industry associations and academic organizations serving B33
		Professional and technical-qualifications B34
		Participation in social services B35
	Talent development B4	Guide student competitions B41
		Student participation in the project process B42
		Project achievements included in teaching content B43
		Development of off-campus practice bases B44
		Applied Curriculum Construction B45
	Morality level B5	Construction of Applied Teaching Materials B46
		Caring for students B51
		Sense of responsibility B52
		Teamwork B53

4.3 Development status of application-oriented teachers

Taking a university in Zhejiang Province as the research object, this paper analyzes the current distribution of application-oriented teachers in terms of type, teaching age, discipline and level. According to spss25.0, there are 733 full-time teachers in the sample data, of which 36.62% are part-time teachers in the industry, enterprises and practical departments, 75.97% are "double teachers and double abilities" and have practical experience in the industry, and 87 are full-time practical teachers.

Table 2 Type distribution of application-oriented teachers

Type	Total	Proportion
Applied technology	18	8.9%
Applied teaching	175	86.2%
Applied research	10	4.9%

According to table 2, most of the applied teachers in this school belong to applied teaching type, and the application technology and applied research type are relatively few. At present, the scientific research function of the application-oriented university mainly points to the application-oriented scientific research, showing a strong regional, and its research results are mainly for regional development and technological innovation. There are contradictions between the development of application-oriented teachers and the educational objectives of application-oriented universities.

Table 3 Discipline Distribution of application-oriented teachers

Subject Category	Total	Proportion
Engineering	76	40.0%
Art	61	32.1%
Management	40	21.1%
Literature	11	5.8%
Pedagogy	2	1.1%

Table 3 shows the subject distribution characteristics of application-oriented teachers, among which the representatives of engineering, art and management are the most. There is a large gap of talents in science and technology, industry, finance and management in the region where colleges and universities are located. The specialty setting should be scientific and reasonable, and the corresponding subject teachers have more opportunities in project practice and on-the-job training, which can support the identification of application-oriented teachers.

Table 4 Distribution of teaching age of application-oriented teachers

Teaching age	Total	Proportion
More than 10 years	135	66.5%
5-10 years	66	32.5%
Less than 5 years	2	1.0%

According to the distribution of teaching age in Table 4, the proportion of teachers with longer teaching age who are considered as application-oriented teachers is higher. It can be seen that the application-oriented colleges and universities are focusing on the cultivation of young and middle-aged backbone teachers and new teachers, while not neglecting the mature teachers with long teaching age, which is in line with the application-oriented colleges and universities to include all teachers in the service scope of teacher development activities.

Table 5 Approved grade distribution of different types of application-oriented teachers

	Senior	Medium	Primary	Access
Applied technology	0	5	1	8
Applied teaching	8	23	67	61
Applied research	0	2	4	2
Total	8	30	72	71

It can be seen from the distribution shown in Table 5 that the approval levels of the three types of application-oriented teachers are mainly based on admission and primary level, while the number of middle and senior application-oriented teachers is relatively small. Compared with the advantages of early establishment and rich research atmosphere of research universities, although the platform of application universities is relatively low, the research ability is not enough.

5. Conclusion

In the continuous exploration of the construction of application-oriented teachers, the evaluation system of application-oriented teachers needs to be further improved. We suggest that local colleges and universities should follow the following principles in the construction of the evaluation system of application-oriented teachers when facing the needs of application-oriented personnel training.

5.1 The principle of promoting teaching and research

At present, the type distribution of application-oriented teachers is mainly based on the combination of teaching and application. The type distribution is relatively single and cannot match the teaching objectives of application-oriented universities. Teachers' understanding of the development of "transformation" is not in place, and there are conceptual deviations. To promote the construction of application-oriented teachers in local colleges and universities, we should base on the transformation and development goals of Application-oriented Undergraduate Colleges and universities. College teachers should pay more attention to the improvement of their scientific

research ability, professional skills and practical ability while completing the theoretical teaching. Through scientific research projects and on-the-job training inside and outside the school, we can really participate in the front line of the enterprise, improve our own scientific research ability and practical ability, and better guide students to practice.

5.2 Principle of combination of quantitative and qualitative analysis

At present, the existing evaluation index system has not yet formed a detailed standard, the comprehensive is insufficient, the evaluation methods and means do not match the requirements of application-oriented teachers, lack of effectiveness, it is difficult to effectively guide the follow-up development of application-oriented teachers. It is suggested that by investigating the evaluation system design of application-oriented teachers and the development characteristics of existing application-oriented teachers in similar colleges and universities, the general rules of the evaluation system design of current Application-oriented Undergraduate Colleges and universities and the general principles of colleges and universities in such evaluation system can be concluded. Then according to the talent training objectives and characteristics of the school, summed up the applicable principles and characteristics of the application-oriented teacher training in order to achieve the unity of generality and individuality.

5.3 The principle of ensuring the foundation and development

Influenced by the traditional idea of ideological education, local colleges and universities provide less opportunities for teachers to participate in professional skills training and corporate probation training. The enthusiasm of teachers is not high, the motivation to carry out academic research activities for local economy and enterprises is insufficient, and the awareness of teachers' self-transformation and professional development is weak. Moreover, the setting of evaluation cycle does not match with the practice project, and it is unable to flexibly track the project effectiveness of teachers [6]. It is suggested that colleges and universities should support the in-depth exploration of basic teaching and practice platform of application-oriented teachers in terms of policies, enhance the consistency and flexibility of evaluation cycle setting and application-oriented teachers' assessment orientation, and constantly optimize teachers' professional growth environment.

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