

Research on Multi-dimensional Teaching Evaluation of Teachers in Higher Colleges and Universities

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Abstract. Based on the four regressions and new 40 items of higher education proposed by the Ministry of Education in 2018, the teaching evaluation of teachers in higher colleges and universities is taken as the research object, the evaluation concept is updated, and a new type system of teaching evaluation is established with diversified evaluation subjects and multi-dimensional evaluation indicators. The new system not only includes 6 evaluation subjects with different evaluation weight, but also includes 4 evaluation elements and 21 observation points. The 6 evaluation subjects are teachers themselves, supervision team, peers, students, student information officers and third party. And the 4 evaluation elements are abilities of basic teaching, informatization teaching, interaction between teachers and students and teaching research. Meanwhile, a correlation matrix between the evaluation subjects and the observation points is built. The systematic and scientific evaluation system can improve the teaching ability of teachers in higher colleges and universities, and benefit their growth and development.

1. Introduction

The state officially released the list of double first-rate construction in September, 2017. Without first-class teaching, there is no first-class undergraduate education. Without excellent teaching staff, it is impossible to achieve first-class teaching. The initiative of regarding undergraduate education as the foundation and four regressions [1] was put forward by the Ministry of Education in June 2018, one of which was returning to the duty. Minister Chen Baosheng stressed that teachers should be guided to love teaching, devote to teaching, research teaching, and concentrate on teaching and educating people. The responsibility of teachers' teaching subjects should be strengthen and the institution of teachers' evaluation should be revised and improved in the notice issued by the Ministry of Education in August, 2018. That the teaching abilities of teachers should be improved and the reform to the evaluation system of teachers should be deepened was pointed in the new 40 items of higher education issued by the Ministry of Education in September, 2018.

However, the teaching evaluation standards for teachers are mostly targeted and utilitarian indicators influenced by the digital worship under the audit culture [2] for a long time, which limits teachers' teaching input and affects the teaching quality. Therefore, it is very necessary and urgent to actively explore and improve the teaching evaluation system of teachers, actively guide teachers to return to their duties so as to improve the quality of higher education under the new era and new background.

2. Updating the teaching evaluation concept for teachers

Teachers are the main body of teaching and educating people in higher colleges and universities. The policy of evaluation is a baton of mobilizing the work enthusiasm and initiative of teachers. The teaching evaluation of teachers should actively guide teachers and students to pay attention to the quality of teaching and gradually form the quality culture of teaching in higher colleges and universities. A new type system of teaching evaluation should be established by following the value orientation of regarding the teachers' development as the foundation [3] and focusing on the principle of promoting construction by evaluation, promoting reform by evaluation, promoting teaching by evaluation and promoting enhancing by evaluation. Only when the evaluation subjects are diversified and the evaluation elements and observation points are multi-dimensional, the system constructed may be systematic, scientific and standardized, so that everybody can fully display his talents and achieve the goal of continuously improving the teaching level of teachers and the quality of personnel training.

3. Establishing multi-dimensional teaching evaluation system for teachers

The teaching abilities of teachers not only reflect their teaching level, including the continuous optimization of knowledge structure, mind, emotion, attitude, values, etc., but also closely relate to the academic culture and academic management system of a school [4]. The teaching evaluation of teachers in higher colleges and universities is a complex system problem, because not only the rationality of evaluation subject should be considered, but also the comprehensiveness of the evaluation elements and observation points should be taken into account.

3.1 Diversified evaluation subjects

Students have the right to evaluate teachers' teaching, because they are educated object for teachers in higher colleges and universities. However, the most important thing for teachers' teaching is creativity. In general, students do not have the knowledge and ability to evaluate teachers' creativity. At the same time, there are many students who treat the teaching evaluation with a gamification attitude [4]. Therefore, it is unscientific that students are the single subject of evaluation.

The system of teaching evaluation with diversified evaluation subjects not only can reflect the teaching abilities and teaching effects of teachers comprehensively and scientifically, but also can play a positive incentive role to encourage teachers to discover problems in their own teaching process and find the direction of future work, and improve their level of education and teaching.

According to the survey, 6 evaluation subjects are selected and their evaluation weights are set in the paper. The result is shown in table 1.

Table 1. Evaluation subjects and their evaluation weights

Number	Evaluation subject	Evaluation weight
ES1	Teachers themselves	10%
ES2	Supervision team	15%
ES3	Peers	15%
ES4	Students	25%
ES5	Student information officers	15%
ES6	Third party	20%

Education is the foundation of one country. Whether the teachers' teaching is good and the education quality of the higher colleges and universities is high, the internal evaluation of school is only one aspect, and which should be externally evaluated by a qualified and independent third-party agency. Using a professional third-party evaluation organization to reexamine teachers in one eye can not only ensure the professionalism for the relevant business advantages and problems of teachers, but also demonstrate the practicality of the problem. The superiority of third-party evaluation is not only to discover the problems of teachers, but more importantly, to explore the advantages and strengths of

teachers and to promote the appreciation and development of teachers' professional level and teaching ethics.

3.2 Abilities of basic teaching

Teaching is one of the basic abilities and responsibilities of teachers in higher colleges and universities. As Minister Chen Baosheng said, for a teacher in higher colleges and universities, no matter how high his honor, the teacher is the first identity, teaching is the first job and attending class is the first responsibility.

The basic teaching abilities of a teacher should include 6 aspects, namely teaching attitude, teaching design, teaching expression, teaching implementation, teaching effect and teaching methods. They are represented by A1, A2, A3, A4, A5 and A6, respectively.

3.3 Abilities of informatization teaching

The abilities of informatization teaching are more important professional qualities and core competencies of teachers in higher colleges and universities. It is the trend of the times to carry out informatization teaching. Because it not only can meet the needs of students, named digital native generation or network generation [5], but also is a requirement for teachers as the leader of the times to initiatively rise to new challenges and implement teaching creation and innovation. Informatization teaching is an important means and method to innovate mode of education and teaching, promote the hierarchical and connotative development of higher colleges and universities [6]. The abilities of informatization teaching of teachers should include curriculum integration, teaching design, program execution, informatization self-promotion and application accomplishment of new media. They are represented by B1, B2, B3, B4 and B5, respectively.

The ability of curriculum intergration refers to the ability to integrate information technology, informatization method and traditional curriculum resources, informatization curriculum resources and human resources into teaching content organically.

Informatization self-promotion includes the self-learning, accepting the training of information-based teaching capacity, and participating in information seminars, and so on.

The application accomplishment of new media mainly refers to the use of new media to spread positive energy information so as to educate people in teaching.

3.4 Abilities of interaction between teachers and students

It is one of the most important factors for students' success to contact with passionate and inspiring teachers closely. The active interaction between teachers and students can create a democratic classroom environment, can promote skills and emotional development of students, and can improve the learning enthusiasm and successful rate of students. Establishing a positive teacher-student relationship will promote students' growth of cognition, social experience and emotion, and enhance their psychological well-being.

Four observation points should be included, which are students' participation in teaching, creating and asking questions from students, assigning and reading over homework, courses counseling and Q&A. They are represented by C1, C2, C3 and C4, respectively.

It is an important observation point that let students create and ask questions for interaction between teachers and students. Because it is a better class that can arouse students create and ask questions, and it is a best class that can enlighten students ask questions and the teacher cannot answer them for a while [7].

3.5 Abilities of teaching research

Teaching research refers to carry out a series of research to solve some problems found in teaching, obtain some inspirations and further improve the teaching work. Abilities of teaching research should include 6 observation points, namely reform and innovation of teaching, fusion of science research and teaching process, excellent teaching achievements, construction of teaching materials, guiding

students and promotion of teaching research. They are represented by D1, D2, D3, D4, D5 and D6, respectively.

3.6 Correlation matrix

In order to make the multi-dimensional teaching evaluation system more operational, a correlation matrix between diversified evaluation subjects and multi-dimensional observation points is established and shown in table 2.

Table 2. The correlation matrix between evaluation subjects and observation points

Evaluation Subject	Observation Point																				
	A 1	A 2	A 3	A 4	A 5	A 6	B 1	B 2	B 3	B 4	B 5	C 1	C 2	C 3	C 4	D 1	D 2	D 3	D 4	D 5	D 6
ES1							√				√	√	√	√	√	√	√	√	√	√	√
ES2	√	√	√	√	√	√	√	√	√			√	√	√			√	√	√	√	√
ES3	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
ES4	√	√	√		√	√		√				√	√		√	√					√
ES5	√	√	√		√	√		√				√	√		√	√					√
ES6	√				√						√	√	√	√		√	√	√	√	√	√

4. Conclusion

The teaching evaluation of teachers is very important to any type of higher colleges and universities, which is related to stimulation of the internal motivation of teachers, to improvement of quality of education and teaching, and to long-term development of teachers and higher colleges. Based on the important conferences and files of the Ministry of Education in 2018, the teaching evaluation of teachers in higher colleges and universities in new era is researched, and a multi-dimensional system of teaching evaluation for teachers is established, which has 6 evaluation subjects, 4 evaluation elements and 21 observation points. Meanwhile, the different evaluation weight is set for every evaluation subject, and a correlation matrix between evaluation subjects and observation points is created. The proposed system is more systematic and scientific, which provides the diagnostic and modified mechanism for the promotion of teachers' teaching abilities and is conducive to the improvement of quality of education and teaching in higher colleges and universities.

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