

# Exploration and Research on Multi-Dimension Integrated Teaching Quality Evaluation System for Colleges and Universities

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## **Abstract**

As the country and society pay more and more attention to the quality of college education, the quality of college education has become an important factor affecting the development of the country, colleges and teachers. The traditional teaching quality evaluation in colleges and universities has shortcomings such as one-sided and unfair evaluation. To solve this problem, this paper proposes a multi-dimension integrated teaching quality evaluation system in colleges and universities. The system integrates professional education quality evaluation and ideological and political education quality evaluation, self-evaluation and third-party evaluation, in-campus and off-campus evaluation, teaching evaluation and teaching research evaluation, quantitative evaluation and qualitative evaluation, and horizontal and vertical evaluation. This paper provides ideas and references for colleges and universities to establish a more comprehensive and objective teaching quality evaluation system.

**Keywords:** teaching quality, multi-dimension, ideological and political education, third-party evaluation

## **1. Introduction**

As the whole country and society pay more and more attention to the quality of higher education, teaching quality in colleges and universities has become an important factor affecting the development of the country, universities and teachers. From a national perspective, colleges and universities are important places for the country to cultivate high-quality talents, and the quality of talents determines the direction and level of future national development. From the perspective of colleges and universities, teaching quality is an important basis for measuring the level of colleges and universities. It affects the reputation of the school, the quality of students, the quality of student employment, and the recognition of graduate employers. High teaching quality will bring about a series of virtuous circles, on the contrary, low teaching quality will bring about a series of vicious circles. From the perspective of college teachers, at present, in most colleges and universities, teaching quality has been closely related to teachers' professional ability test and teacher professional title promotion. It is closely related to many other aspects, so it has become a major factor affecting the personal development of teachers.

## **2. Related Work**

Domestic and foreign educators and scholars have done a lot of useful research work on teaching quality evaluation. [1] constructs a prediction model of curriculum system satisfaction in order to obtain

students' learning status. [2] constructed a comprehensive evaluation system of teaching quality by combining process evaluation, summary evaluation and enterprise evaluation based on professional certification standards. [3] can produce quantitative teaching quality evaluation reports according to statistical results such as students' arrival rate, head-up rate, nod rate, etc. [4] gave a teaching quality evaluation system of modern apprenticeship based on big data. [5] proposed a method combing machine learning and Gaussian process for the evaluation of the English teaching quality.

### 3. Insufficiency of traditional teaching quality evaluation methods

At present, most colleges and universities generally have their own teaching quality evaluation methods. For the purpose of simplicity and ease of operation, usually, the evaluation methods are quantitative, and the teaching quality score of the teacher is given by students and teaching supervisors scoring the teacher's classroom teaching situation. However, such methods have obvious deficiencies and drawbacks.

Firstly, the evaluation is one-sided. The quality of teaching should not only be evaluated from the situation of classroom teaching. The classroom teaching situation can reflect the teaching level of teachers from a certain angle, but it cannot cover all the teaching quality.

Secondly, the evaluation is unfair. Whether it is students or teaching supervisors, their evaluations have certain emotional and subjective intentions, and cannot be absolutely fair.

Finally, and the most important point, the ultimate purpose of teaching quality evaluation is not to classify teachers into different groups, but to hope that it has a feedback mechanism that can form a closed loop so that teachers can continuously improve teaching. Traditional assessment methods make it difficult for front-line teachers to get any feedback from a simple overall assessment score.

Therefore, in order to enrich the diversity of teaching quality evaluation angles in colleges and universities and improve the fairness of evaluation results, based on the existing traditional teaching quality evaluation system, this paper further considers and explores, and explores and studies a multi-dimensional integration of college teaching quality evaluation system.

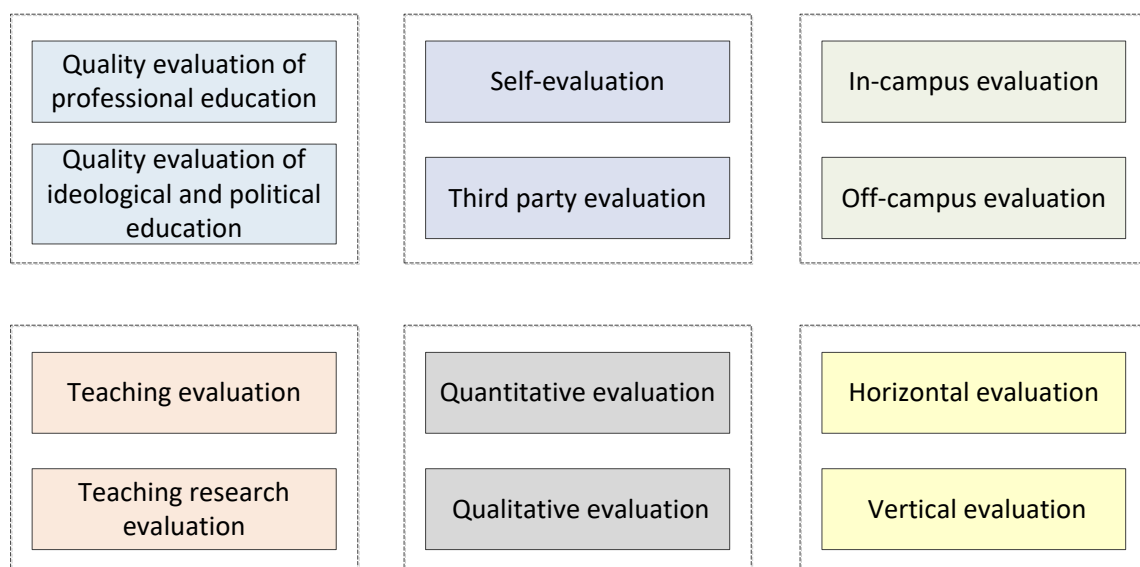


Fig. 1. The schematic diagram of the evaluation system

#### 4. Multi-dimension integrated teaching quality evaluation system for colleges and universities

The multi-dimension integrated teaching quality evaluation system for colleges and universities proposed in this paper integrates multiple dimensions, and evaluates the teaching quality of colleges and universities from multiple angles and in an all-round way. The schematic diagram of the evaluation system is shown in Fig.1.

##### 4.1. Integration of professional education quality evaluation and ideological and political education quality evaluation

Professional teachers in colleges and universities are not only the imparters of professional knowledge, but also the guides of students' ideological education. In addition to requiring a high level of professional knowledge, college teachers should also serve as guides for students to correct their thinking and establish a correct outlook on world, life, and values. Similarly, the ultimate goal of students' education is not just to become a person with solid professional knowledge and high professional skills, but to become a person who contributes to society, the country and mankind.

For a long time, almost all the classrooms in colleges and universities are lectures on professional knowledge, ignoring students' professional quality, humanistic quality and ideological and political education, as shown in Fig.2. In China, in recent years, the Ministry of Education has vigorously promoted the reform of curriculum ideological and political education, encouraging teachers to deeply dig elements related to ideology and politics from professional courses, and organically combine professional education and ideological and political education.

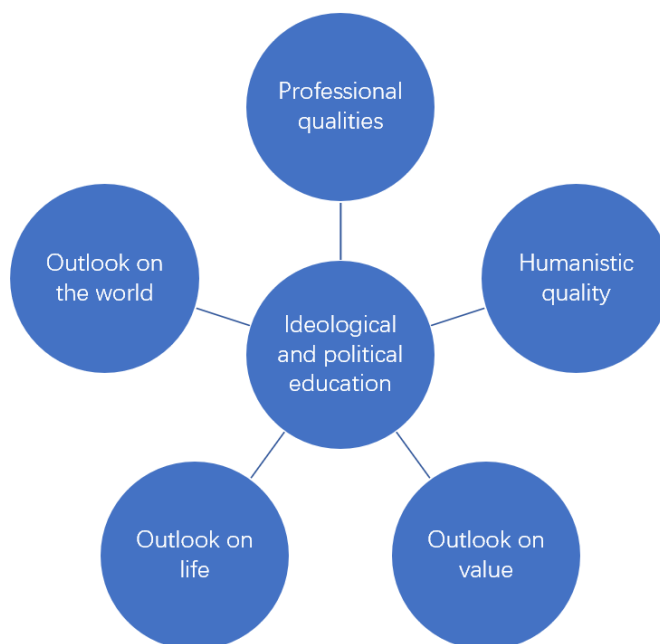


Fig. 2. Ideological and political education

Therefore, the integration of professional education quality evaluation and ideological and political education quality evaluation aims to put ideological and political education in the same or even more important position as professional education.

#### 4.2. Integrate self-evaluation with third-party evaluation

Most of the traditional teaching quality evaluations are third-party evaluations, these third parties include students, teaching supervisors and so on. In fact, self-evaluation is an important part of teachers' reflection on the teaching process. Teachers are one of the main subjects of teaching activities. After the teaching activities are over, reviewing and summarizing teaching experience and deficiencies in the teaching process will promote teachers' subjective initiative, encourage teachers to continuously improve themselves, form a closed loop of teaching, and gradually improve the quality of teaching.

Of course, in order to avoid the subjectivity and excessive falsification of self-evaluation, it is necessary to combine multi-level third-party evaluations at the same time, including student evaluation, supervisor evaluation, peer evaluation, department evaluation, teaching management department evaluation, and off-campus evaluation, as shown in Fig.3. The integration of self-evaluation and third-party evaluation will motivate teachers to improve their teaching level from both internal and external aspects.

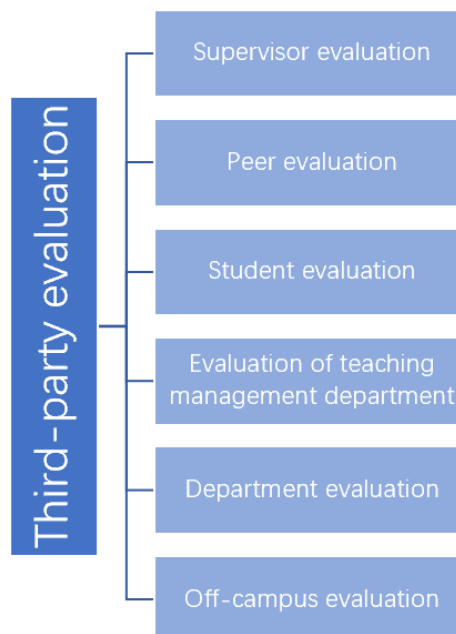


Fig. 3. Ideological and political education

#### 4.3. The integration of in-campus evaluation and off-campus evaluation

The audience of teaching activities is students, and students will eventually go out of school and enter the society. The recognition of students by employers and society after graduation can indirectly reflect the quality of teaching received by students in school.

There are many sources of off-campus evaluations, as shown in Fig.4.

Public opinions and comments on colleges and universities or college teachers.

Survey data from consulting and research institutions, such as rate of employment, matching degree between major and employment, graduate career development, etc.

Satisfaction evaluation of enterprise employers on graduates.

After China joined the "Washington Accord", China's engineering higher education is increasingly

recognized by the international community, which is also an international evaluation of the quality of our higher education.

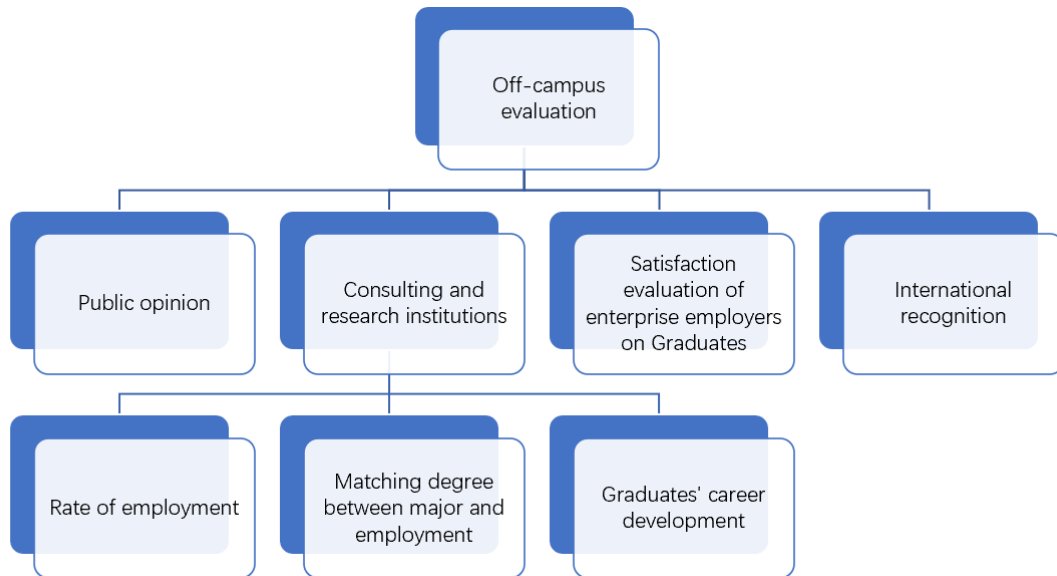


Fig. 4. Off-campus evaluations

#### 4.4. The integration of teaching evaluation and teaching research evaluation

In addition to completing teaching tasks with quality and quantity, college teachers should also actively participate in various teaching and research activities, including publishing teaching and research papers, participating in teaching seminars, teaching salons, teaching public demonstration courses, and publishing textbooks, as shown in Fig.5.

Publishing teaching and research papers can summarize the experience in the teaching process, and good teaching methods and teaching tools can be promoted by papers.

Participating in teaching seminars and teaching salons can enhance communications with peers and learn from each other.

Teaching public demonstration classes plays a role as a model for other teachers.

Publishing teaching textbooks is a self-organization of teaching content. As shown in Figure below.

The teaching evaluation in the teacher's classroom can only evaluate the teaching level of the teacher, and the teaching research evaluation is the inspection of the teacher's teaching and research ability.

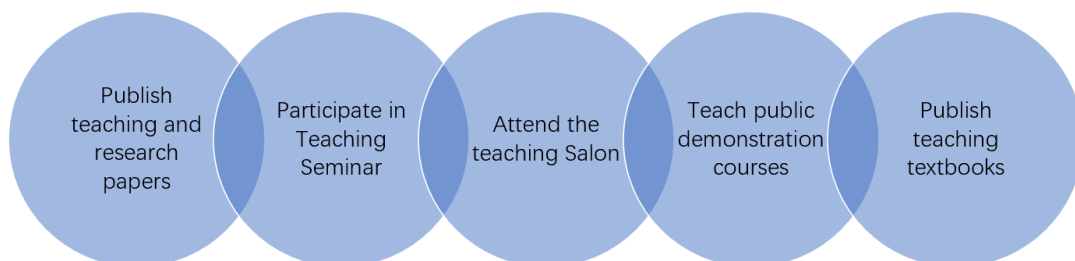


Fig. 5. Teaching and research activities

#### 4.5. Quantitative evaluation and qualitative evaluation are integrated

Quantitative assessment can use data to measure the quality of teaching, while qualitative assessment is often used when quantitative assessment is inconvenient. Common quantitative evaluations include self-evaluation and third-party evaluation scores, and the quantity and quality of teaching and research results. For example, Table 1 is a common teaching supervision scoring table. In Table 1, teachers' classroom teaching performance is evaluated in terms of manners, teaching content, language expression, student interaction, classroom management and teaching methods.

**Table 1.** A common teaching supervision scoring table

No.	Evaluation item	Full Score	Score
1	Possess a correct political stance, abide by professional ethics, manners is healthy, and language is civilized.	10	
2	Serious preparation of lessons, adequate preparation, standardized teaching records, and substantial teaching content	10	
3	Basic theories, concepts and knowledge points are taught clearly and accurately, and the amount of information is appropriate	10	
4	Clearly organized, logically rigorous, and teach difficult points clearly	10	
5	Do not follow the script (screen) to publicize subjects, teach simple language, be good at inspiring, guiding students, and promoting students to think	15	
6	Lectures are full of passion and contagion, with full interaction with students, which can attract students to listen carefully	15	
7	Adhere to impart knowledge and educate people, strict classroom management, and high student attendance	15	
8	Actively improve teaching methods, improve classroom teaching efficiency, and focus on the cultivation of students' innovative ability	15	

It is also easy to quantitatively evaluate the teaching and research results. As long as the level and quantity of the teaching and research results are determined, it is easy to calculate the quantitative score of the teaching and research results by setting the calculation formula. As shown in Table 2, different scores are given for different levels of teaching and research projects.

**Table 2.** Different scores are given for different levels of teaching and research projects

Different levels of teaching and research projects	Score
National teaching and research projects	5
Provincial teaching and research projects	3
School-level teaching and research projects	1

However, in addition to these quantitative indicators, many indicators are inconvenient to measure with data, such as work attitude, work enthusiasm, teachers' morality, social influence, etc. These can only be evaluated qualitatively.

#### **4.6. The integration of horizontal evaluation and vertical evaluation.**

Horizontal evaluation refers to the comparison between teachers and teachers, just like the horizontal comparison between teachers in colleges and departments. Vertical evaluation refers to teachers' self-comparison on a time axis. Horizontal evaluation can promote teachers to learn from each other, and make progress together. Vertical evaluation helps teachers to self-reflect and improve themselves, summarize good teaching experience, and reflect on problems and deficiencies in the teaching process, so as to form a closed loop of teaching and continue to improve.

#### **5. Conclusion**

Of course, these multi-dimensional evaluation indicators mentioned above have some overlaps with each other, and there are natural contradictions and conflicts between some indicators, such as quantitative and qualitative, subjective and objective, in-campus and off-campus, overall and partial, direct and indirect contradictions, etc. Then, when formulating a specific teaching quality evaluation plan, how to make overall arrangements and distinguish the primary and secondary, so that the teaching evaluation plan is fair, just and open, and at the same time easy to operate, which can play a positive and positive role in the overall improvement of teaching quality, are teaching quality management departments, and even every college teacher should think about and discuss issues.

#### **Acknowledgments**

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