

# Think on Teaching Evaluation on Chinese University Teachers Based on Cloud Platform Data Evidence

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**Abstract**—At present, the teaching evaluation of most universities in China is mainly based on the students' evaluation of teachers at the end of the learning course, which is difficult to play a role in the continuous improvement of teaching. Based on the Outcome-Based Education (OBE) teaching concept, this paper considered and designed a teacher teaching evaluation system based on the data evidence of cloud teaching platform. The system can save all the teaching activities and documents of teachers before, during and after class as well as the learning results of students. The evaluator used the cloud platform teaching documents to evaluate the teaching quality of subject teachers. The subject teacher will receive the evaluation results and follow-up teaching reform suggestions in the teaching evaluation module, and adjust and optimize the follow-up lectures in time to continuously improve the teaching quality. Finally, this paper gave the strategies for Chinese universities to implement teacher teaching evaluation based on cloud teaching platform data evidence, in order to better promote the reform of teacher teaching evaluation in Chinese universities.

**Keywords**—data evidence, higher education, teaching evaluation, talent cultivation

## I. INTRODUCTION

At present, teaching evaluation in most Chinese universities is mainly based on the teacher ratings given by the students at the end of the course. Some also consider the ratings given by the teaching inspector, who attends the lecture on a random basis and performs teaching inspections. This traditional evaluation is mainly based on the psychological feelings of students and teaching inspector. It is a subjective evaluation which cannot comprehensively and objectively reflect the efforts of teachers, nor can it continuously improve the teaching quality [1]. In order to get higher ratings from the students, some teachers would please and indulge the students, e.g., allowing poor attendance, and allowing talking and playing mobile phones in class. The better practice of teaching evaluation mechanism should assess

the teacher's work based on data evidence, and should be able to support continuous improvement of the teaching work [2]. The development of an online teaching platform makes it possible to perform a data-evidenced teaching evaluation. At present, online teaching platforms, such as Ketangpai, Yuketang, Duifenyi and Chaoxing provide full support to pre-class, in-class and post-class activities. Teachers can upload lecture slides, videos and other teaching resources on the cloud teaching platform for students to study in advance. Via the online teaching platform, teachers can remotely check the attendance, interact with students, assign assignments and perform in class quizzes. After the course, students can upload their assignments and discuss them with the teachers via the platform. Hence, all the supporting documents to the teaching activities are saved on the online teaching platform, which is the data evidence of teaching work by the teacher and supports the teaching evaluation on the teacher [3].

## II. TEACHING EVALUATION PRINCIPLES

### A. Principle of Objectivity

The objectivity principle means that teaching evaluation, including the criteria and measurement, the attitude of the evaluator, and the final evaluation result should conform to the objective facts without subjective prejudice or personal emotion [4].

The majority of traditional teaching evaluation on university teachers is the teacher rating given by their students at the end of the course, which is a subjective evaluation based on students' psychological feelings. Through the cloud platform, the teaching evaluation can be performed according to the supporting documents, i.e., the data evidence accumulated along with the teaching process. The data is real and objective, as well as the evaluation process. The teacher can set up and modify teaching quality indexes in the teaching evaluation module, so that students evaluate the teacher's job through rating the teaching quality indexes, which can be set and modified by the teacher in the teaching evaluation module, and providing feedback and comments, which is in line with the objective teaching facts. Evaluation by

teaching inspectors and professional teachers include evaluation on teaching preparation based on teaching documents on the cloud platform, lecture inspection result, and feedback to the subject teacher. Faculty evaluation is based on the faculty's teaching research results and on the results obtained by the students under the guidance of the teacher. In conclusion, real data is the fundamental basis of the teaching evaluation by all the parties, i.e., students, teaching inspectors, professional teachers, and faculty, so it conforms to the objectivity principle of teaching evaluation.

### B. Principle of Completeness

The principle of completeness refers to the multi-angle and all-around evaluation of all aspects of teaching activities in teaching evaluation.

Teaching evaluation based on the teacher ratings given by the students, only considers the in-class performance, but ignores the pre-class preparation, after-class tutoring, teaching research, etc. But the teaching evaluation based on cloud data evidence consider more comprehensively, it covers the following teaching activities: pre-class preparation, lectures, interaction with students, classroom test, assignment marking, subject study, paper review, after-class tutoring, instructions to the student carrying on scientific research, and teaching research data. It includes all of the teaching activities and comprehensively reflects teaching efforts invested by the teacher, which is in line with the principle of completeness.

### C. Principle of Guidance

The principle of guidance refers to whether the teaching evaluation result can guide the subsequent teaching work, which not only helps the subject teacher understand their own advantages and disadvantages, but also points out the direction to their future development.

Traditional teaching evaluation mainly focused on the subject teacher ratings given by their students. Once the courses are finished, the evaluation results will be archived and cannot contribute to subsequent teaching. In the teaching evaluation based on cloud platform data evidence, students are required to rate the teaching and add comments in the cloud platform after each lecture. The platform will then make statistics of the ratings and send the evaluation results to the lecturer, who can receive the result and improve the subsequent teaching activities in time. The evaluation results by the teaching inspector and peer teachers are also immediately sent to the subject teacher via the platform, which the subject teacher can check and review at any time. Such evaluation can guide teachers to discover the shortcomings and improve their own teaching process in time, so as to constantly improve the quality of teaching.

### D. Principle of Science

The principle of science means that teaching evaluation should base on scientific rules and follow logical ways, rather than experience and intuition. The principle of science requires scientific evaluation criteria, scientific evaluation procedures and methods.

In the traditional evaluation on the subject teachers, the evaluation criteria is relatively general, because it is not designed for the specific lecture or the course to reflect the teaching situation of each class. The criteria in the cloud and data-evidenced teaching evaluation is set by the subject teacher. According to the Talent Training Scheme, the teacher first sets up the three-dimension teaching targets (i.e., imparting professional knowledge, training professional ability and value model). Then as the second step, the teacher decomposes the teaching target into lecture objectives. Lastly, the teacher sets up the corresponding lecture teaching evaluation indexes for students to rate the teaching quality. The evaluation criteria is used to assess the real teaching activities and all supporting data is scientific. At the same time, the evaluation procedure is scientific, because it is multi-angle. It combines the evaluation by the students, the teaching inspector, and the faculty. Last, the cloud-based teaching evaluation can make the evaluation score calculation fast and efficient, the calculation result is accurate, and the feedback is timely. Therefore, the evaluation method is scientific.

## III. CLOUD TEACHING PLATFORM FUNCTIONS

Teacher teaching evaluation based on data evidence needs support from the cloud teaching platform. The Cloud teaching platform consists of a teaching module, listening and evaluation module and management module [5], as shown in Fig. 1.

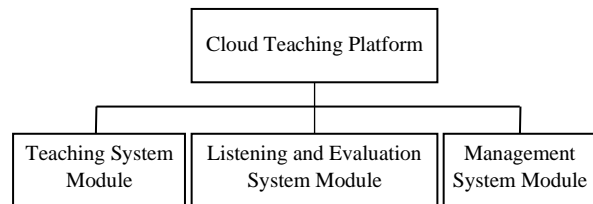


Figure 1. Modules of cloud teaching platform.

There are five types of users on the cloud teaching platform, i.e., subject teachers, students, teaching inspectors, faculty and university. These users need to register on the cloud teaching platform. The registered teachers have access to create courses on the cloud teaching platform, conduct online teaching, blend online and offline teaching, browse the evaluation results, and evaluate other teacher teaching. The registered students can join a particular course for learning, and carry out teaching evaluations on the course. The registered teaching inspectors and faculty users have access to evaluate the teaching of the teachers and to browse the analysis data and charts of their faculty teacher lectures. The university users can query and analyze the lecture data and evaluation information of the whole university teachers.

### A. Teaching System Module

The functions of the cloud platform teaching system module were showed in Fig. 2.

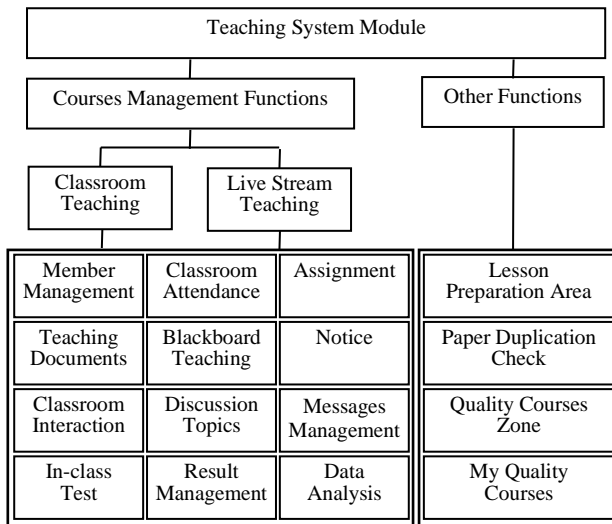


Figure 2. Functions of cloud platform teaching system.

1) Courses management function

Teachers can create or set up courses according to teaching tasks, delete courses, sort courses, and archive courses. The cloud platform teaching system can support both traditional classroom teaching and live-stream teaching.

- **Member Management:** Manage class members, such as add, delete, modify member data, etc.
- **Class Attendance:** It has four classroom attendance methods: QR code attendance, digital attendance, GPS attendance and traditional attendance. Attendance data management is also supported.
- **Teaching Documents:** Store the learning materials uploaded by teachers, such as PPT, video, animation files, etc. Students can access the above materials for independent learning through smartphones.
- **Blackboard Teaching:** After the teacher starts the blackboard teaching function, the blackboard area will appear on the computer screen and share with all the members. The teacher can write and teach in this area just like the traditional classroom, drawing out important knowledge points, formulas and diagrams and explaining them. The content of the blackboard area will be saved in the cloud server.
- **Classroom Interaction:** Include courseware interaction, test question interaction, rush Q&A, asking questions, sharing the screen on students' mobile phones, a teacher using mobile phone to play control gadgets, blackboard (using computer blackboard writing), students' classroom performance records, etc.
- **Discussion Topics:** Both teachers and students can initiate topics to carry out an interactive discussion, e.g., teacher-student discussion and student-student discussion.

- **In-class Test:** Teachers can set questions, create quizzes, and conduct stage-by-stage exams, mid-term exams and final exams.
- **Result Management:** Exam data display, analysis and data report to be downloaded of examination results.
- **Assignment:** Teachers can assign individual assignment or group assignment, and check the duplication rate among the assignments. The platform also supports the function to review assignments online at the smartphone end or PC end.
- **Notice:** The teacher can issue a notice to inform all students of important matters.
- **Message:** The message function can help the teacher and the student communicates separately.
- **Data Analysis:** Analyze students' performance in class, including times of interaction, the number of questions answered, etc., and create dynamic charts.

2) Other functions

The cloud teaching system also can support other functions.

- **Lesson Preparation Area:** Teachers can put the teaching materials (such as PPT, micro video, animation, etc.) in the lesson preparation area. The teacher can import these contents into the specific class.
- **Paper Duplication Check:** Check the students' big homework, such as course papers, project design documents, theme learning documents, etc.
- **Quality Courses Zone:** Display other high quality course resources from other universities for the teachers to learn from.
- **My Quality Courses:** Show the teachers own excellent course resources for other teachers to learn.

B. Listening and Evaluation System Module

The functions of the cloud platform listening and evaluation module are shown in Fig. 3.

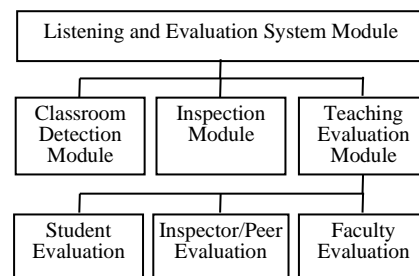


Figure 3. Functions of listening and evaluation module.

1) Classroom detection module

Each classroom end is equipped with some cameras to recognize and analyze the collected classroom data through the image target detection model and face detection model, so as to identify the students' classroom performance and transmit the data to the cloud server for storage [6].

## 2) *Inspection module*

University teaching inspectors and peer teachers can conduct remote network lecture inspections to observe how the lecturer gives the lectures and how the students concentrate their attention in the class. They can also save video clips of lectures onto the cloud server as evidence of class evaluation.

## 3) *Teaching evaluation module*

The teaching evaluation module includes evaluation for three user roles: student, inspector/peer and the faculty.

- **Student Evaluation.** When students finish each class or homework, they will evaluate the teacher's lecture, and write the evaluation results on the cloud platform server for teachers to browse online.
- **Inspector/Peer Evaluation.** Teaching inspectors and peer teachers can join classes on site or remotely, and use smart phones to fill in the teaching evaluation results in the cloud platform teaching evaluation module.
- **Faculty Evaluation.** According to the teacher teaching achievements in one year and the results of guiding students' learning, the faculty evaluates the teacher teaching and fills the results in the cloud platform teaching evaluation module.

## IV. TEACHING EVALUATION DATA ANALYSIS

The data used for teaching evaluation should include teacher teaching data, students' learning data, and teacher-student interaction data.

### A. *Teacher Teaching Data*

This part data should include teacher learning summary of talent cultivation plan, curriculum outline, assessment plan, teaching calendar, teaching design, teaching materials, interactive questions, homework design, examination paper design, homework and examination paper evaluation, teaching summary, teaching research and other documents. These data should be presented in the lesson preparation area of the cloud platform.

#### 1) *Teacher learning summary of talent cultivation plan*

Each teacher should carefully study the content of the talent training program before starting teaching course, understand the objectives of the talent training program and the role of the course taught in the talent training program, and put forward specific measures to support the talent training program, so as to clarify the ideas for the subsequent construction of teaching resources and teaching.

#### 2) *Curriculum outline*

The curriculum outline must reflect the support of the talent cultivation program and reflect the basic knowledge, ability cultivation and value guidance at the same time. Therefore, in each unit or module, knowledge points and ability indexes should be clearly defined, and the integration of contemporary advanced knowledge

should also be reflected to guide the specific design and teaching implementation of course content.

#### 3) *Assessment plan*

A good course evaluation scheme can motivate students to keep learning and make progress [7]. Teachers should carefully design a course assessment scheme, strengthen the process assessment, improve the final examination, enhance the proportion of the process assessment score, and make the process assessment account for more than 50%.

#### 4) *Teaching calendar*

At the beginning of the semester, teachers schedule the teaching calendar and arrange the teaching content for each lesson according to the university work arrangements.

#### 5) *Teaching design*

The teaching design scheme can prompt teachers to comprehensively think about the whole process of course teaching and ensure the efficient development of course teaching. Therefore, teachers should design each lesson in detail before class, including teaching objectives, teaching content, PPT courseware, teaching links and so on. Teaching objectives should be designed in three dimensions: professional knowledge, professional ability, and value orientation. Teaching content should fully reflect the requirements of the course teaching outline, break through the traditional knowledge, and effective integration of advanced knowledge, including the professional theory, the integration of social and economic development, to lead the students to observe society, look around the world, strengthen the consciousness of innovation. So that students can make full use of the learned knowledge and the ability to solve problems. A characteristic PPT style can stimulate students in the sense, and arouse students' interest. The PPT should cover attendance, explanation, question interaction, classroom quiz and summary, so that each part is closely connected, systematic and orderly [8].

#### 6) *PPT teaching courseware*

PPT courseware shall make full use of text, forms, pictures, colors to present the teaching content, teaching links, each part of the coordination so that it can arouse students' interest and consideration.

#### 7) *Interactive questions*

Classroom teaching should be student-centered. With the teacher-lectured teaching mode, students can only do passive learning, shallow learning. Through classroom interactive question design, students can be motivated to think deeply and carry out deep learning [9]. Therefore, classroom interaction questions should summarize the preliminary knowledge and go beyond the basic knowledge, so that students must analyze, process, and integrate the knowledge to get the answer to the question. Two to four interactive questions can be designed in a class, which not only ensures the training of students' ability, but also promotes the normal teaching progress.

#### 8) *Assignment design*

An assignment is an important measure for students to study independently and explore learning. Assignments

should be divided into basic assignments and advanced assignments. The basic assignment is to consolidate the basic knowledge taught in class and the textbook, while the advanced assignment is to cultivate problem-solving ability and innovation ability. Basic assignments can be covered in the exercises questions in the textbook. The advanced assignment is designed by teachers according to students' characteristics and knowledge mastery. It is a reprocessing and comprehensive utilization of basic knowledge, which can be in the form of theme learning, course paper, project design, etc. [10].

9) Examination paper design

The examination paper should reflect the requirements of knowledge and training ability in the curriculum outline, and each question should reflect the supporting point of the curriculum outline and the supporting point of a talent training program. Teachers shall give the corresponding analysis table, explain each question to assess the knowledge and ability, review the whole examination paper, and repeatedly evaluate the examination paper on the overall support of the talent training program. The examination paper analysis form should be signed by the dean or academic leader before printing and examination.

10) Assignment and examination paper evaluation

Assignment evaluation should be timely, not only to grade the assignment, but also to point out the advantages and disadvantages of the submitted assignment to guide students to identify their problems from multiple levels, optimize the assignment, and constantly improve students' ability to analyze and solve problems. Examination paper evaluation should be standardized and carried out in strict accordance with the requirements of the faculty. The institute and university shall promote web-based tests where possible. The online examination system automatically evaluates the objective questions, and the subjective questions can be evaluated by teachers. Teachers can write comments and give scores according to the answers in different papers. The system records all the data and finally automatically calculates the total score. If the institute and university cannot support online tests and adopt traditional paper exams, the teachers should scan and upload the papers with the top 10%, middle 10%, and last 10% of the class scores to the server of the cloud teaching platform for evaluation data after reviewing them.

11) Teaching summary

In combination with the teaching evaluation of students, teaching inspectors, and peer teachers, the subject teachers should write a teaching summary after each lesson, reflect on the success and deficiencies of the lesson, and carry forward the success and improve the deficiency in the next lesson, so that each lecture can be improved.

12) Teaching research

Teaching research can improve teacher teaching level [11]. Through teaching research, teachers need to study, compare and analyze teaching theories and learning theories, and obtain their own teaching approaches

through the integration of theories and teaching practices, so as to constantly improve the quality of teaching.

B. Student's Learning Data

Student learning data include general assignment documents, thematic learning documents, project design documents, course papers, student awards, examination papers, etc. After students complete the general assignment documents, theme learning documents, project design documents, and course papers, they will sign the corresponding documents, make them into PDF format and upload them to the server. The examination papers will be scanned and uploaded by the marking teacher.

C. Teacher-Student Interaction Data

Teacher and teacher, teacher and student, student and student in the online cloud teaching platform discussion data, will be automatically recorded in the server, and can be reviewed and downloaded at any time.

V. TEACHER TEACHING EVALUATION BASED ON DATA EVIDENCE

In order to continuously improve and enhance teaching quality, teacher teaching should be evaluated from four aspects: students' evaluation score (accounts for 60%), teaching inspector's evaluation score (accounts for 10%), peer teacher evaluation score (accounts for 10%), and faculty's evaluation score (accounts for 20%).

A. Student Evaluation

Based on OBE education concept, student evaluation indexes are designed from three aspects: professional knowledge, professional ability, and value orientation [12]. Student evaluation indexes were shown in Table I.

TABLE I. STUDENT EVALUATION INDEXES TO TEACHER TEACHING

Level 1 index	Level 2 index	Full score value	Student evaluation score
Professional knowledge (30)	Knowledge 1		
	Knowledge 2		
	...		
	Knowledge n		
Professional ability (40)	Ability 1		
	Ability 2		
	...		
	Ability n		
Value orientation (30)	Value 1		
	Value 2		
	...		
	Value n		
Comments and Suggestions			

The level 2 index in Table I is different for each lesson. Teachers need to design the teaching objectives of the lesson and the score of each level 2 index. The sum of the scores of level 2 index is 100 points. Before class, the teacher designs the student scoring indexes and their scores as shown in Table I into a questionnaire according to the requirements of the online teaching evaluation system.

At the end of each class or after finishing the assignment which should be completed 24 hours before the next class, according to the evaluation index in Table I, students can use smartphone or computer to evaluate teacher teaching in the online teaching evaluation system based on their sense of gain or achievement of learning goals, to write evaluation score and comments or suggestions. At the end of the semester, all students' evaluation scores were accumulated and averaged as the teacher's evaluation scores of the course.

Weight calculation is carried out according to the number of teaching classes undertaken by teachers in a semester. Starting from the second teaching class, each class increases by 1%, such as the weight of the second class is 101%, the weight of the third class is 102%, and so on, in order to balance the gap caused by large teaching tasks. If a teacher undertakes multiple classes in a semester, his teaching evaluation score is:

$$\frac{\text{Mean score of students in Teaching Class 1} \times 100\% + \text{Mean score of students in Teaching Class 2} \times 101\% + \text{Mean score of students in Teaching Class 3} \times 102\% + \dots}{\text{Number of teaching classes}}$$

Among them, the mean score of students in teaching class 1, 2, 3... and n were in order from smallest to largest.

### B. Teaching Inspector and Professional Teacher Evaluation

Teaching inspector and professional teacher evaluation are carried out from two aspects: teaching preparation and classroom teaching. The indexes of teaching inspector and peer teacher evaluation on teacher teaching are the same, as shown in Table II. Table II is designed by the Teaching Affairs Office of the university. They shall give the score of each index and input it into the online teaching evaluation system.

TABLE II. TEACHING INSPECTOR AND PEER TEACHER EVALUATION FORM

Level 1 index	Level 2 index	Full score value	Student evaluation score
Teaching preparation (50)	Learning Summary of Talent Cultivation Plan		
	Curriculum Outline		
	Assessment Plan		
	Teaching Calendar		
	Teaching Design		
	PPT Teaching Courseware		
	Interactive Questions		
Classroom teaching (50)	...		
	Lecture Passion		
	Teaching Method		
	Classroom Interactive Atmosphere		
	Value Guidance		
Comments and Suggestions	Completion of Teaching Content		
	...		

To attend the lecture, teaching inspectors and peer teachers shall log on to the cloud teaching platform to read and analyze the teacher learning summary of talent

training plan, course outline, assessment scheme, teaching calendar, teaching design, PPT courseware, interactive questions design documents, to evaluate preparation for classroom teacher teaching in the online evaluation system.

Lectures evaluation can be on-site, or on the network, as the smartphone can be used in the online evaluation system to grade the teachers' teaching, and write comments or suggestions.

If more than one inspector or teacher listens to the same one teacher, the final evaluation score of inspector and teacher will be calculated automatically by the online teaching evaluation system.

### C. Faculty Evaluation

The faculty evaluation focuses on scoring teacher teaching achievements and students' learning achievements based on teacher guidance. Faculty evaluation indexes are listed in Table III. The level 2 index in Table III is designed by teacher faculty according to the actual situation and given specific index scores.

Faculty evaluation is carried out at the end of the year or the beginning of the next year, also based on the online evaluation system.

TABLE III. FACULTY EVALUATION FORM

Level 1 index	Level 2 index	Full score value	Student evaluation score
Teacher teaching achievements (50)	Completing the Teaching Tasks of this Semester		
	Grading Assignment		
	Grading Examination Paper		
	Curriculum Construction		
	Writing Teaching Material		
	Teaching Research Projects		
	Teaching Research Papers		
Student's Learning Outcomes based on Teacher Guidance (50)	Teaching Awards		
	...		
	Student Research Projects		
	Student Topic Learning Documents		
	Student Academic Papers		
Comments and Suggestions	Student Competition		
	Student Awards		
	...		

After the completion of student evaluation, teaching inspector evaluation, peer teacher evaluation and faculty evaluation, the online evaluation system automatically calculates the total score of the subject teacher, and gives the ranking of teachers according to the university and faculty. At the same time, text mining is carried out on the comments of students, teaching inspectors, peer teachers, and faculty, word cloud analysis is given, and key problems are listed as the reference for teachers to

improve teaching. The university can analyze the comprehensive evaluation data from the four aspects of student evaluation, teaching inspector evaluation, peer teacher evaluation and faculty evaluation, and evaluate the teaching situation of the evaluated teachers respectively, so as to put forward precise measures for teacher teaching improvement, so as to continuously improve the teaching effect and improve the teaching quality.

## VI. POLICIES AND RECOMMENDATIONS

The inertia of university evaluation and various interest patterns that have been formed are cultural barriers that higher education must breakthrough [13]. All departments of colleges and universities must strengthen coordination and make concerted efforts to promote the smooth progress of the evaluation of university teachers.

### A. The Attention of University Leaders

University leaders should attach great importance to the teaching evaluation of university teachers based on data evidence. At the beginning of each semester, the university leaders shall hold a special meeting to mobilize all teachers and students to actively carry out teaching evaluations based on data evidence, forming a positive and enthusiastic evaluation atmosphere in the whole university. Special funds are invested every year to build a cloud platform teaching evaluation system and carry out teaching evaluation.

### B. The Office of Academic Affairs Vigorously Promotes the Reform of Teaching Evaluation

The teaching evaluation of university teachers based on data evidence is a revolution of the traditional teaching evaluation system, which needs the Office of Academic Affairs to issue policies, mobilize and encourage all colleges and departments to follow up and promote. Especially at the beginning of the semester, basic data such as the class schedule and the number of students in the class should be set up in the online teaching evaluation system, laying a good foundation for students, teaching inspectors and peer teachers to attend lectures and evaluate lessons.

### C. Guide Students

University student work department and other departments should guide the student to have a correct view of appraisal, formed in order to enhance student learning ability, knowledge level, and the comprehensive quality evaluation of teacher's teaching as correct idea, let the wind of improving the quality of teaching to blow the students heart, working in student evaluation of teacher's teaching actions reflect positive, serious and accurate evaluation.

### D. Motivate Teachers

The university should announce incentive teachers teaching reform policy, which shall consider performance appraisal and title evaluation, to make outstanding contributions to encourage the teaching of teachers. Every year there shall be a substantial teacher reward,

judgment on the title and publicity praise, to make teachers feel that to do a good teaching job is glorious, and thus having a constant power in the teaching work.

## VII. CONCLUSION

The teaching evaluation on university teachers based on the cloud data evidence is a teaching evaluation reform based on OBE concept. The data evidence includes the talent training scheme studied, the teaching outline, the teaching calendar, the teaching courseware, student pre-class study, attendance, teacher lecture, classroom interaction, classroom test, students' evaluation after class, students' assignment, the final exam, teaching inspector evaluation, peer teacher evaluation, and faculty evaluation, etc. All the data is stored in the online evaluation system. The comprehensive evaluation on teacher teaching based on these data can comprehensively reflect teacher teaching preparation, teaching process and the student learning effect. It can continuously evaluate teachers' teaching process and provide feedback on the evaluation results to teachers in time, prompting teachers to constantly improve teaching content and teaching quality.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## AUTHOR CONTRIBUTIONS

Yangqing Zhu analyzed research references, designed functions of Internet teaching platform, carried out teaching evaluation thinking based on teaching data, and wrote this paper. Shenhai Zheng analyzed teaching data. All authors had approved the final version.

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