

Industry-University-Research Interaction Model for Teaching Quality Evaluation of Economic Management Courses

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Abstract—Teaching quality evaluation is an important means of colleges to control teaching quality, and expedite teachers to keep improving teaching levels. Based on industry-university-research interaction (IURI) model, this paper surveys the current state of teaching quality evaluation of college teachers, establishes the indices for teaching quality evaluation of economic management courses, and presents a few countermeasures for improving teaching quality evaluation. The results show that: teaching quality evaluation covers three types of data: student evaluation, supervisor evaluation, and network-assisted teaching evaluation. Our student evaluation index system covers four dimensions: teaching attitude, teaching content, teaching method, and teaching effect. Our expert evaluation index system also covers four dimensions: teaching preparation, teaching ability, teaching management, and teaching effect. Our multi-subject teaching quality evaluation system for economic management courses covers four modules: student module, teacher module, supervisor module, and administrator module. This research lays a theoretical basis for applying the IURI model in teaching reform.

Keywords—teaching quality, teaching level, industry-university-research interaction (IURI) model, economic management, multi-subject evaluation system

1 Introduction

Teaching quality is the lifeline for higher educational schools [1]. To improve the quality of higher education, optimizing the teaching quality of colleges and universities is the primary task, and the teaching quality evaluation of college teachers is an important means of teaching quality improvement [2, 3]. At present, with the continuous reform of the educational system, higher requirements have been imposed on the teaching quality of higher education. In terms of teaching quality evaluation, some policies have been adjusted, and multi-subject and multi-angle evaluation modes have been introduced to the teaching quality evaluation system [4, 5]. After constant practice and optimization of the existing effective evaluation systems, most colleges and universities

in China have not established teaching quality evaluation systems that are suitable for their respective conditions [6, 7].

For the development of higher education, the key issue has been shifted from quantitative growth to quality improvement. Quality improvement has become a consensus in the educational circle, and a core task of higher education reform in China [8, 9]. The evaluation of the teaching quality of college teachers is an important means to improve the quality of higher education [10, 11]. Seeing from a realistic point of view, teaching quality evaluation is an indispensable work for every school. The workload of teaching quality evaluation is heavy and the work type is complex and diverse; by researching the status quo of teaching quality evaluation work in colleges and universities and conducting in-depth discussion, contradictions and problems in teaching evaluation could be resolved [12, 13]. Teaching quality evaluation is the process of judging the value of teaching activities and teaching effect using feasible evaluation techniques and methods based on certain teaching goals, it judges not only the teaching ability of teachers and their teaching effect, but also the learning ability of students and their learning effect [14-16].

The IURI model includes the evolution of learning-industry structure, and the interaction among the hierarchical structure of industry layout-education, the structure of education disciplines, and the structure of education layout [17, 18]. In the current teaching quality evaluation in China, the evaluation subject selection tends to change from a single evaluation subject to multiple evaluation subjects [19, 20]. Some colleges and universities monitor the classroom teaching to ensure good teaching effect, hoping to improve from multiple aspects such as education decision formulation, teaching management standardization, and teaching quality evaluation. In terms of teaching management standardization, teaching quality valuation has played a very important role in promoting teaching reform, monitoring teaching process, enhancing teacher competency, and improving teaching quality [21]. Based on the IURI model, this study surveyed the status quo of teaching quality evaluation in colleges and universities, established a few indices for teaching quality evaluation of economic management courses, and presented some countermeasures for improving teaching quality evaluation.

2 The status quo of teaching quality evaluation in colleges and universities

2.1 Analysis of the status quo

Teaching quality evaluation is an organized and planned system formed by the combinations of evaluation criteria, evaluation methods, and various evaluation indices used by teaching quality evaluators [22, 23]. The teaching quality evaluation system stipulates the scope, content, and scale of the evaluation, providing a basis for the evaluation of teaching quality [24, 25]. Teaching indices mainly examine the specific works done by teachers in teaching [26, 27]. In order to improve teaching level and quality, figure out the teaching situation of teachers in each department, and motivate teachers'

work enthusiasm, Guangzhou University conducted a questionnaire survey to study the teaching quality evaluation system in the school, and helped teachers perform correct teaching behaviors that are conducive to realizing the teaching goals [28, 29].

There are many indices that can reflect the teaching quality of teachers. Through survey, five most important ones were selected, as shown in Figure 1, among these indices, the most important one is professional knowledge, followed by teaching attitude, professional ethics, scientific research ability, and teaching experience. Survey results of multiple higher educational schools showed that their teaching quality evaluation included three parts: student evaluation, supervisor evaluation, and network-assisted evaluation [30]. Figure 2 is a flow chart of students' online teaching evaluation. The entire process is organized and promoted by the college, teachers and students are encouraged to participate actively, students log in to the teaching evaluation system to score the teaching two weeks before the final exam, the teaching affairs office summarizes and counts the online evaluation information, analyzes and diagnoses teachers' teaching situations, writes teaching evaluation reports, the results are adopted for the evaluation of teachers' teaching quality. The teaching evaluation reports are submitted to the college, then the college formulates rectification measures according to the feedback opinions, and helps and guides teachers to improve their teaching level.

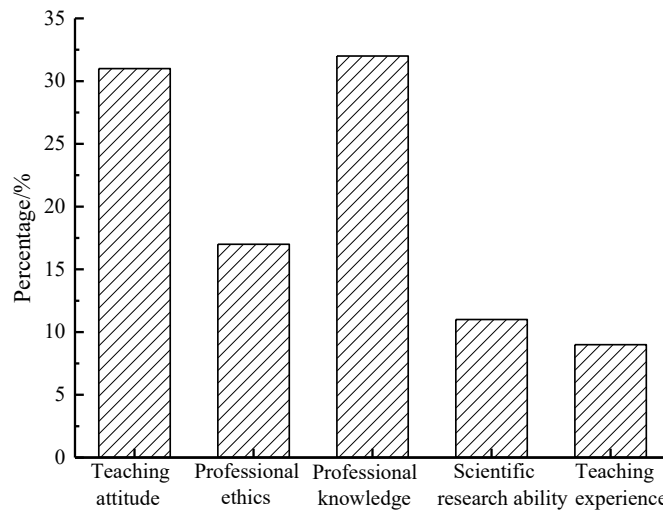


Fig. 1. Indices that can reflect the teaching quality of teachers

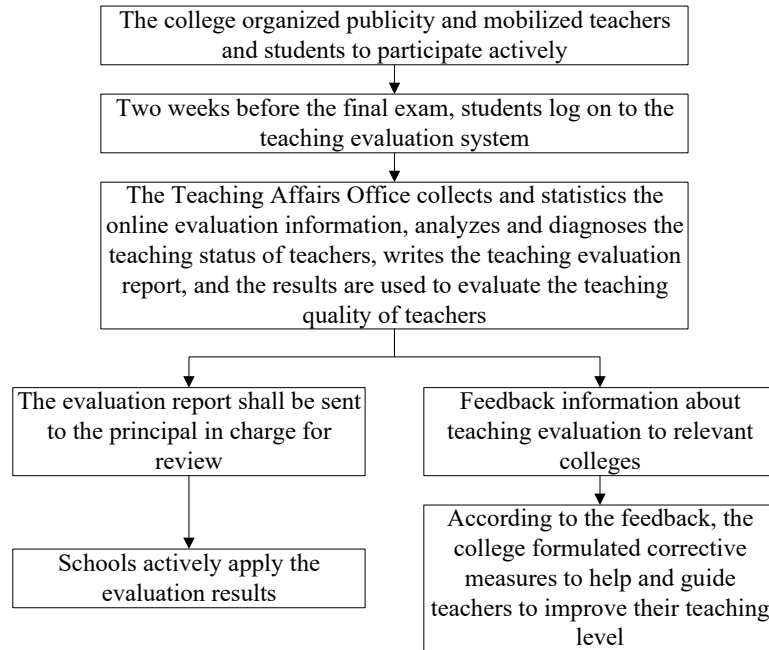


Fig. 2. Flow chart of students' online teaching evaluation

2.2 Problems in teaching quality evaluation

Currently, the teaching quality evaluation of college and universities are generally divided into four grades: excellent, good, qualified, and unqualified [31, 32]. According to the survey, the teaching quality evaluation of economic management courses has a few problems, as shown in Figure 3, from students' perspective, they do not have a thorough understanding of the purpose and significance of the teaching evaluation activity; their understanding of the specific content of teaching quality evaluation is insufficient; most students consider teaching evaluation as an unnecessary job, they generally think arranging the evaluation time in the semester end is inappropriate, and they do not have the willingness to know about the teaching evaluation results. From teachers' perspective, most teachers think teaching quality evaluation is unnecessary; teaching evaluation restricts teachers' teaching activities; the feedback results of teaching quality evaluation are too simple; teachers have doubts about the objectivity of the evaluation results; and they believe that the teaching evaluation system needs improvement. Figure 4 shows the reasons for the implementation problems of teaching quality evaluation. At first, the promotion work and training of students' teaching evaluation are insufficient; second, the work focus of supervisors' teaching evaluation has not been completely shifted yet; third, there's a teacher-student game in teaching quality evaluation; fourth, emphasizing on summative evaluation while ignoring formative evaluation; fifth, there is a managerialist tendency in teaching quality evaluation; sixth, there

is a contradiction between the disclosure of evaluation results and the protection of teachers' privacy.

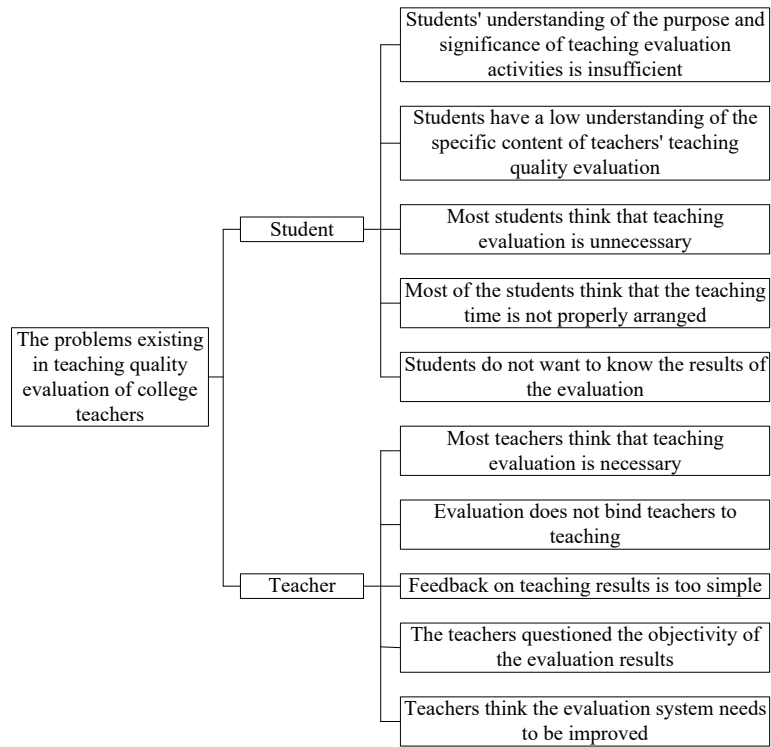


Fig. 3. Problems existing in teaching quality evaluation of college teachers

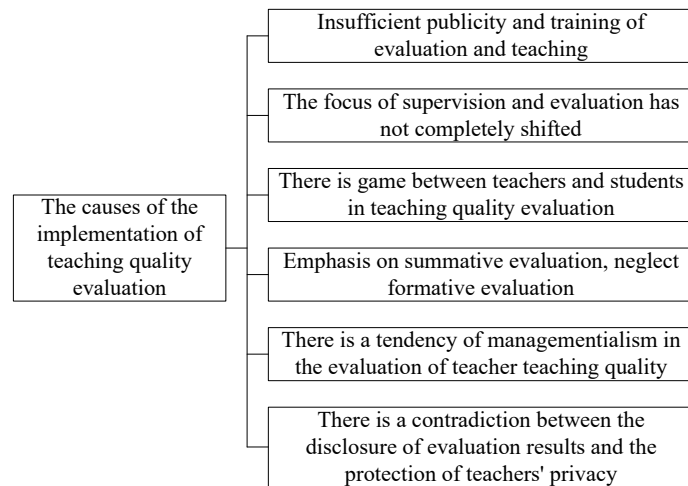


Fig. 4. The causes of implementation problems in teaching quality evaluation

3 Design of indices of teaching quality evaluation based on the IURI model

3.1 Design of indices of teaching quality evaluation of economic management courses

In the context of industry-university-research integration, the teaching quality evaluation of economic management courses needs to pay attention to the characteristics of the discipline or the college, and establishes an effective teaching evaluation index system with multiple evaluation subjects [33, 34]. Figure 5 shows the principles of constructing a multi-subject teaching quality evaluation system. The system construction needs to follow the principles of discipline-industry matching, skill-position matching, teaching-education matching, and teaching-student matching. Students' teaching evaluation is based on their subjective feelings. Figure 6 shows the proposed student teaching evaluation index system, which contains four dimensions of teaching attitude, teaching content, teaching method, and teaching effect. In terms of teaching attitude, teachers are required to be rigorous, spirited, and responsible in teaching. In terms of teaching content, teachers are required to be fully prepared before class, the content structure should be clear, and the key points and difficult points should be highlighted. In terms of teaching method, teachers are required to have good lecturing skills and language expression ability, and they should be able to interact with students smoothly. In terms of teaching effect, teachers are required to be able to let students understand the lecturing content, increase students' interest in the course, and enhance their problem-solving ability. Figure 7 shows the proposed expert teaching evaluation index system, which evaluates from four dimensions of teaching preparation, teaching ability, teaching management, and teaching effect. The teaching preparation dimension mainly evaluates the teachers' teaching materials, syllabus, weekly calendars, and teaching plans; the teaching ability dimension mainly evaluates the teachers' teaching content, methods, and tools, etc.; the teaching management dimension mainly evaluates students' attendance rate, homework and assignment, and learning process management, etc.; the teaching effect dimension mainly evaluates the classroom atmosphere, students' classroom performance, and teachers' lecturing characteristics.

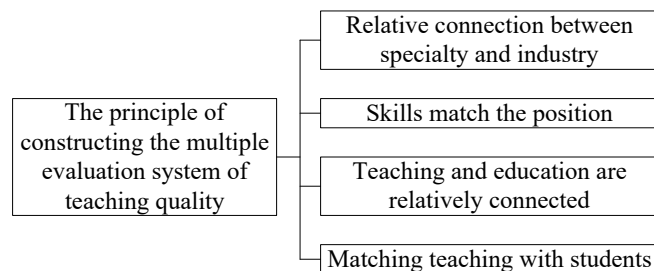


Fig. 5. Principles of constructing a multi-subject teaching quality evaluation system

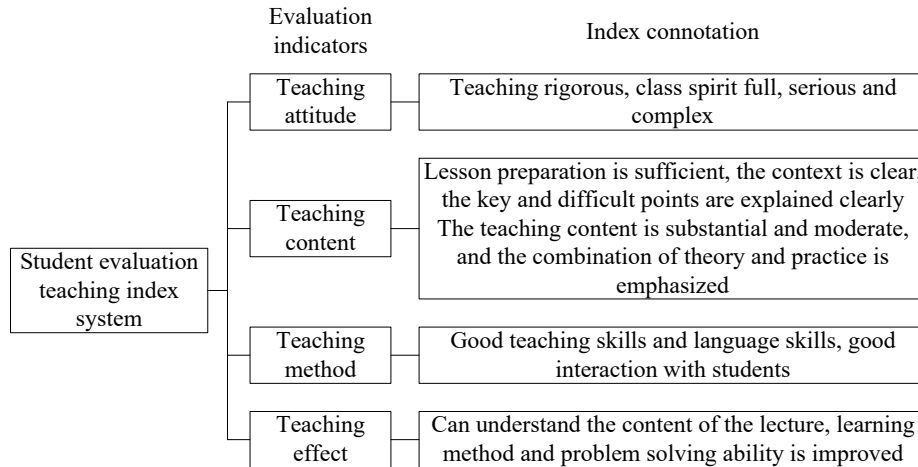


Fig. 6. The proposed student teaching evaluation index system

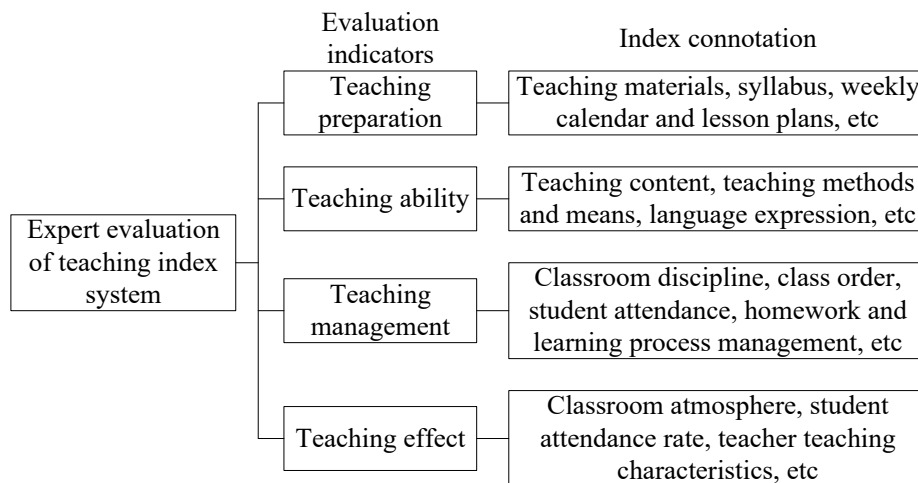


Fig. 7. The proposed expert teaching evaluation index system

3.2 Construction of the multi-subject teaching quality evaluation system for economic management courses

Chinese colleges and universities generally pay less attention to system operation, they fail to use scientific management method to make good use of the teaching evaluation results, and the teaching evaluation result feedback and improvement links are always missing. Figure 8 gives the workflow of teaching quality evaluation, steps included in the workflow are: formulate teaching evaluation plan; regularly enter the eval-

uation data of evaluation subjects; back-stage data processing and statistics; send evaluation results to each department or the office of teaching affairs; each department talks to unqualified teachers.

Figure 9 lists the implementation effects of the teaching quality evaluation of economic management courses, including: first, a good atmosphere of "concentrating on teaching and education" has been created; teachers and students now are highly approved of teaching quality evaluation; with the establishment of the multi-subject teaching quality evaluation system, most teachers and students consider the implementation of teaching quality evaluation as a necessity, and it has a positive role in motivating teachers' teaching activities; it is helpful for improving teachers' personal abilities, according to the evaluation results, teachers can continuously optimize their knowledge framework, enrich teaching content, actively communicate with students, and understand their thoughts in a timely manner; it is helpful for selecting quality courses, in case of economic management courses, it helps to select and develop a series of excellent courses, and encourage teachers who get good results in teaching evaluation to open more courses.

Figure 10 shows the functions of the proposed multi-subject teaching quality evaluation system of economic management courses. Function modules of the system include four parts: student module, teacher module, supervisor module, and administrator module. Wherein the student module contains two aspects: personal information, and student's teaching evaluation; the teacher module contains: personal information, teacher's teaching evaluation, self-evaluation, and peer evaluation; the supervisor module contains personal information and supervisor's teaching evaluation; the administrator module contains: administrator information, evaluation theme management, evaluation database management, query and printing, etc.

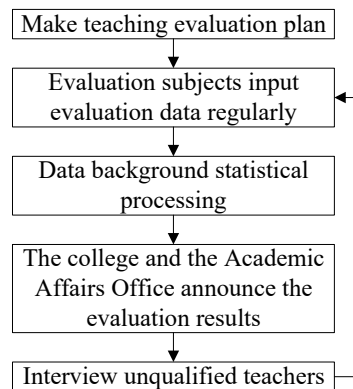


Fig. 8. The workflow of teaching quality evaluation

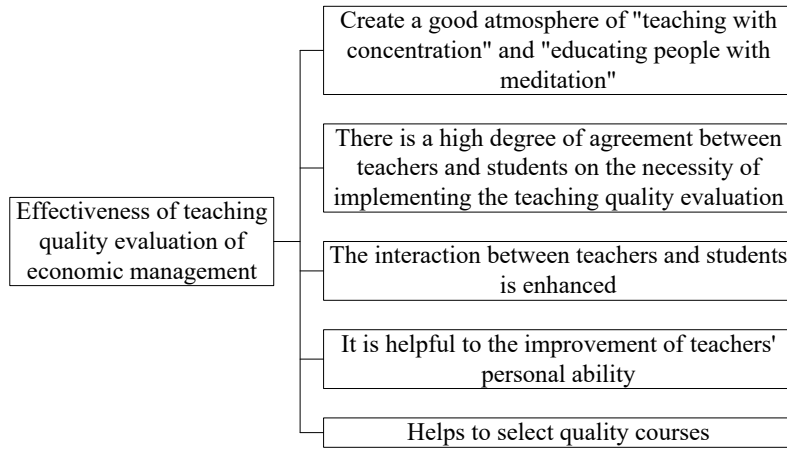


Fig. 9. Implementation effects of the teaching quality evaluation of economic management courses

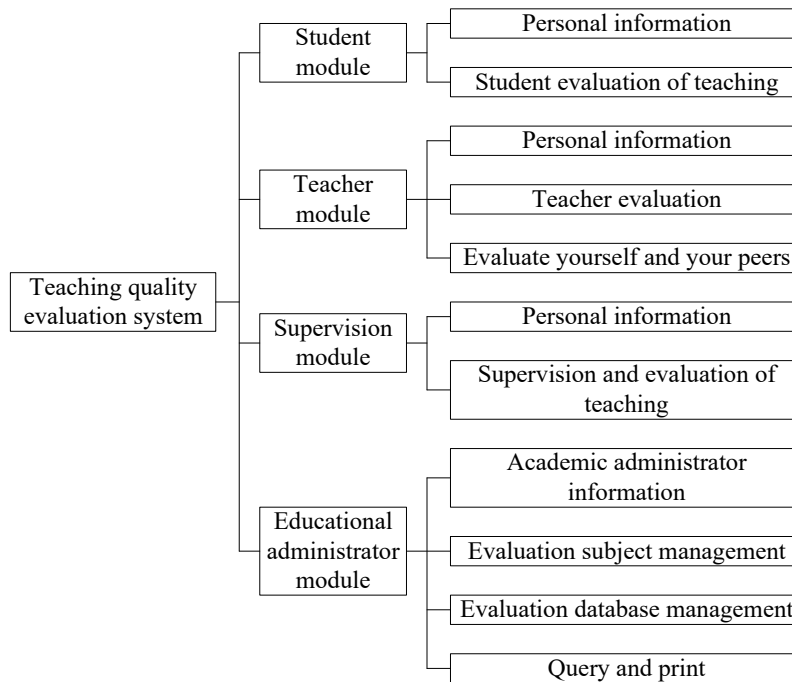


Fig. 10. Functions of the proposed multi-subject teaching quality evaluation system of economic management courses

4 Countermeasures to strengthen the teaching quality evaluation of economic management courses

Above-mentioned survey revealed that there're many problems with the teaching quality evaluation of economic management courses, and colleges and universities have improved their corresponding teaching evaluation indices. Based on the IURI model, this paper proposed a few countermeasures for improving the teaching quality evaluation of economic management courses, as shown in Figure 11. First, a culture of teaching quality evaluation of college teachers should be created to enhance the understanding of teachers and students on the teaching quality evaluate work; second, close attention should be paid to the awareness of improvement; college administrators need to form an up-to-date understanding of teaching quality evaluation from the perspective of improvement, lay emphasis on how to make use of the evaluation results to find out misunderstandings and blind spots in the teaching work of teachers, and ensure that the teaching evaluation work not only can exert an effective impact on decision-making and management, but also can react on teaching quality, thereby enhancing teachers' teaching ability and providing students with better education. The process and utilization of teaching evaluation results should be optimized to better interpret and analyze the teaching quality evaluation results. The teaching evaluation time should be arranged reasonably; the traditional teacher-centered teaching evaluation method emphasizes too much on teaching content, tool, method, and attitude, although it regards students as the ultimate beneficiaries and takes the learning achievement of students as the orientation, from the evaluation results, we can't tell whether the teacher has triggered students' interest or not. Figuring out teacher's teaching quality from the perspective of student learning is conducive for teachers to judge students' real learning effect so that the teacher can adjust the teaching arrangement in a timely manner, in this way, students can be truly treated as the center of teaching quality evaluation, and the teaching quality can be improved continuously with teaching quality diagnosis as the tool.

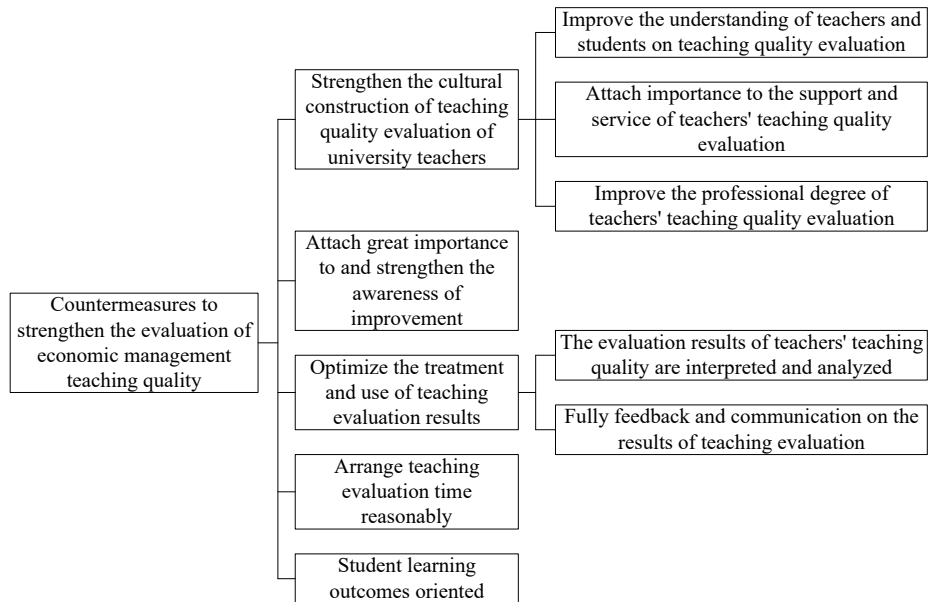


Fig. 11. Countermeasures for improving teaching quality evaluation of economic management courses

5 Conclusion

Based on the IURI model, this study surveyed the current state of teaching quality evaluation of college teachers, established indices for teaching quality evaluation of economic management courses, and gave a few countermeasures for improving teaching quality evaluation. The specific conclusions are as follows:

1. In the context of industry-university-research integration, the construction of teaching quality evaluation systems needs to follow the principles of discipline-industry matching, skill-position matching, teaching-education matching, and teaching-student matching.
2. With the establishment of the multi-subject teaching quality evaluation system, now most teachers and students believe that teaching quality evaluation is very necessary, which will play a positive role in motivating teachers' teaching activities and help them improve personal abilities, moreover, it can facilitate the selection of high-quality courses.
3. Steps of teaching quality evaluation include: formulate teaching evaluation plan; regularly enter the evaluation data of evaluation subjects; back-stage data processing and statistics; send evaluation results to each department or the office of teaching affairs; each department talks to unqualified teachers.

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