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Research on the application of process evaluation in economics courses in Chinese Universities

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Article Info

Abstract
Driven by the student-centered and outcome-based educational philosophy, the exploration of teaching reform in economics courses in Chinese universities is expanding. This article takes the economics course as the research object from the list of China's national first-class undergraduate courses, and conducts a comprehensive analysis of process evaluation application. It concludes that process evaluation focuses differently depending on the teaching mode, accounts for a higher proportion in course assessment, has a higher frequency in implementation and a higher degree of integration with information technology. But the forms of process evaluation tend to be homogeneous.

1. Introduction

Since entering the 21st century, science and technology are developing rapidly. At the same time, the world is facing new challenges such as peace and development, health and safety, environmental protection and etc. The new generation of college graduates will work and study in such an environment and constantly encounter new changes in their careers, which require ability of learning lifelong and exploring new fields of knowledge. Universities and courses are required to respond and answer how to cultivate young people who can cope with new problems and challenges.

Curriculum and courses are the cornerstone of college education, and process evaluation is an important component. Huang Fuquan (2014) [1] believes that process evaluation is a systematic evaluation of the dynamic status of course implementation, teaching, and learning during the period of course. Gao Lingbiao (2004) [2] advocates that the function of process evaluation includes making judgments on students' learning level, affirming achievements, identifying problems, and encouraging students to think and take actions to improve. In summary, process evaluation is to evaluate the achievement of teaching objectives, identify problems, provide feedback, and encourage improvement during the period of teaching. A good process evaluation can improve the effectiveness of course teaching. And in long run, it can also help students learn the way of self-evaluation, self-learning and self- development to deal with changes and challenges.

2. Question Raising

Economics is a mandatory course for business school students, and it is also an important Liberal Arts Course in universities. The course contains ideas, theories, and methods of microeconomics and macroeconomics. Every semester there are a large number of students in economics classes. Even a small improvement in the teaching and learning may have a significant and positive impact and surely is worth investing in.

Under the traditional classroom teaching model, economics courses face difficulties such as a large class size and limited classroom teaching hours. The implementation of process evaluation is constrained. The economics courses in universities are taught in staircase classrooms or even small auditorium with rows of students facing a teacher in the front.

The teacher's main job is to give lecture and explain, with a lot of one-way information transmission and little communication, discussion, and collaborative learning. Even if there are questions and case studies in the lecture, teachers often ask and answer questions themselves. The feedback to assignment takes a lot of time. From assigning, collecting, grading to feedback, it may take two weeks. In addition, with a large number of students and various differences in learning situation, it is difficult to respond to the various requirement in class. In short, the role of process evaluation is limited. Therefore, it usually accounts for 30% or less in course assessment, while the final exam accounts for 70% or more. With online learning platforms growing and the first generation of online indigenous students entering into universities, more and more teachers are building their courses online and using process evaluation online. The teaching modes include but are not limited to Massive Open Online Courses (MOOCs), Small Private Online Courses (SPOCs), and Online and Offline Blended Courses. Each of the above three teaching modes has its own characteristic, but they all require teachers to record numerous short videos of lectures on the basis of knowledge fragment. Students are guided to watch and learn independently online according to the course catalog and take process evaluations in time. Process evaluation based on online learning platforms have been widely carried out in universities, and economics courses have no exception.

3. Application of Process Evaluation in Economics Courses in China Universities

In 2020 and 2023, the Chinese Ministry of Education announced the first and second batch of national first-class undergraduate courses. In the list there are 55 economics courses which involves 45 universities. The titles of these economics courses are microeconomics, macroeconomics principles of economics, western economics, and Chinese economic topics. The national first-class courses has demonstrated and led the way in deepening student-centered teaching reform and promoting the deep integration of information technology and education. The process evaluation in its teaching is also representative. Therefore, this article researches the application of process evaluation in the above-mentioned economics courses.

The focus of process evaluation varies depending on the teaching mode. From the 55 national first-class economics courses, as shown in Table 1, there are three main teaching modes. The first is online courses, namely MOOCs, which are open to university and social learners. The main teaching platforms include iCourse (China University MOOCs), xuetangX, and Treenity. The open access of MOOCs has attracted a large number of online learners, with significant differences in their educational backgrounds and learning needs. Therefore the process evaluation of the 12 MOOC courses focuses more on the participation of learners in online learning (online learning progress, posting and interaction, etc.), and is equipped with unit tests for learners who apply for certification and pay. The second is online and offline blended courses which are based on high-quality online courses such as MOOCs and innovatively combine online learning with offline teaching. In addition to the above mentioned platforms, the teaching platforms for online and offline blended courses include Chaoxing Xueyin Online and various universities' self-built online platforms mainly targeting campus students in their own universities or communities. Students who complete the course and pass the exam will receive credits from the university. The process evaluation of 25 online and offline blended courses pays more attention to the achievement of various online assignments and tasks. The third is offline courses, which are oriented towards the same students, teaching venues, and class size as traditional offline classrooms in universities. The emphasis is on reforming traditional offline classroom teaching, emphasizing student-centered approach. The process evaluation of 18 offline courses focuses more on the achievement of chapter quizzes.

Table 1: Teaching Model and Process Evaluation Focus of Economics Courses

Course	Teaching Mode	Quantity of Courses	Focus of Process Evaluation
Economics	MOOCs	12	Open to learners in universities and society, process evaluation focuses more on the participation of learners in online learning.
	Online and Offline Blended	25	Based on high-quality online courses such as MOOCs, innovative improvements have been made to campus courses, and an organic combination of online learning and offline teaching has been carried out. Process evaluation focuses more on the achievement of various online assignments and tasks.
	Offline	18	Emphasize the reform of traditional offline classroom teaching, emphasize student-centered approach, and focus more on the achievement of chapter quizzes in process evaluation

Process evaluation accounts for a higher proportion in course assessment. In traditional classroom teaching, the proportion of process evaluation in course assessment is relatively low, generally 30% or less. With the advancement of student-centered teaching reform, process evaluation is much more valued. Using 27 national first-class economics courses as samples (data of process evaluation for the other 28 courses is incomplete), as shown in Table 2, the proportion of process evaluation in course assessment is 40% or more for all the 10 MOOC courses. In three of them the figure is as high as over 60%. In 11 economics courses with online and offline blended teaching, the situation is similar. The proportion of process evaluation in course assessment is 40% or more for all the 11 blended courses. Among them, the figures of 2 courses are between 60% and 80%. And the figure of one course is over 80%. The last group is the 6 economics courses taught offline. For two of them the process evaluation accounts less than 40% in course assessment. And for the other 4 courses, the proportion is over 40%.

Table 2: The Proportion of Process Evaluation in Economics Course Assessment

Courses	Teaching Mode	Quantity of Courses	The Proportion of Process Evaluation in Course Assessment				
			[0, 20%)	[20%, 40%)	[40%,60%]	(60%, 80%]	(80%,100%]
Economics	MOOCs	10	0	0	7	3	0
	Online and Offline Blended	11	0	0	8	2	1
	Offline	6	0	2	3	1	0

The frequency of process evaluation in economics courses is quite high. In economics courses of various teaching mode, process evaluation runs through the entire teaching process from beginning to end. In MOOCs and online and offline blended courses, numerous knowledge fragments have been sorted out and refined accompanied with micro lecture videos under the framework of content. Process evaluation corresponds to micro lecture videos that make it convenient for students to watch and learn. It has every benefit that online courses can offer. The economics courses taught offline set assignments/quizzes for at least each chapter/unit. Taking the same 27 national first-class economics courses as samples, as shown in Table 3, the frequency of assignments/quizzes for the purpose of process evaluation in economics courses varies. In most cases, there are 5-8 or 9-12 assignments/quizzes. In few cases, there are much less or more. And there is one course that has more that 16 assignments/quizzes. In addition, many courses embed exercises in their micro lecture videos. Students must do these exercises in order to continue watching the video. And the quantity of exercises embedded in micro lecture videos are not included in the statistics in Table 3, so the actual quantity of all assignments/quizzes and exercises may be larger. For example, one course entitled Microeconomics has 9 unit quizzes for the purpose of process evaluation and additional exercises in its 30 micro lecture videos.

Table 3: Frequency of Assignments/Quizzes in the Process Evaluation of Economics Courses

Courses	Teaching Mode	Quantity of Courses	Quantity of Assignments/Quizzes in Process Evaluation				
			4 or less	5-8	9-12	13-16	more than 16
Economics	MOOCs	10	2	4	2	1	1
	Online and Offline Blended	11	0	4	4	3	0
	Offline	6	1	3	2	0	0

Information technology has been comprehensively integrated into process evaluation. Process evaluation includes both the evaluation of emotional attitudes during the learning process, such as classroom learning performance, as well as the continuous evaluations and feedback during the course. It is to help students and teachers understand the overall and individual learning status in time, and be able to adjust and improve teaching and learning during the course rather than after it. With the support of information technology, process evaluation can obtain big data on student learning. The online learning platform can record the time and duration of students watching videos online, submitting assignments/quizzes, participating in online discussions and posting. It uses detailed big data to quantitatively reflect students' emotional attitudes and engagement in the learning process, and also facilitates horizontal and vertical comparisons. The deep integration of information technology and course teaching is very helpful. It can make up the shortcomings of traditional classroom teaching. For example, online learning platforms can immediately provide feedback after students submitting their assignments/quizzes. The efficiency of process evaluation is greatly improved. A lot of works that are difficult to complete in traditional classrooms can be done in a short time now. Among the 27 national first-class economics courses, 18 courses quantitatively include video learning duration, participation in discussions and posting, and punctuality in completing tasks as part of their daily learning performance. In 11 courses, assignments/quizzes can be attempted 2-3 times, with the highest or average score extracted as the valid score, which is quite attractive and may be difficult to achieve in traditional classroom teaching.

The form of process evaluation tends towards homogenization. In addition to regular academic performance, the forms of process evaluation include classroom Q&A, academic papers, research reports, homework, peer evaluations, quizzes/tests, etc. Economics is a foundational course for college freshmen and sophomore students. Usually it do not require academic papers or research reports. However, the form of process evaluation is still relatively single, mainly consisting of assignments and chapter/unit quizzes. And the assignments/quizzes are mostly multiple choice questions. Among the 27 national first-class economics courses, only 5 courses have arranged open questions in addition to multiple choice questions in their process evaluation. Overall, there are more objective questions in the process evaluation, which takes the advantages of online learning platforms to process standardized work automatically and efficiently. However, the lack of explanation, discussion, case analysis, and group reporting may ignore the importance of deep learning.

4. Conclusion and Countermeasures
In traditional offline economics classrooms, due to the large size of classes, the implementation of process evaluation is subject to many constraints. With the widespread application of information technology in teaching and learning, more and more teachers are using on online platforms to carry out course teaching and process evaluation. By analyzing the application of process evaluation in China's national first-class economics courses, the following conclusions can be drawn: the focus of process evaluation varies in different teaching modes; The proportion of process evaluation in course assessment has increased; Frequency of process evaluation in economics courses is quite high; The deep integration of process evaluation and information technology significantly improves efficiency; And the form of process evaluation tends towards homogenization.

The student-centered and outcome-based educational philosophy requires continuous improvement in all aspects of curriculum teaching including process evaluation. The

following improvement measures are proposed for the application of process evaluation in economics courses:

1. Improve the effectiveness of process evaluation. Evaluation of undergraduate majors requires every course in curriculum provides support for students' graduation. And every course identifies its learning outcome in syllabus. Process evaluation needs to work more efficiently to help achieve learning outcome. As for social learners and interdisciplinary elective courses, emphasis can be placed more on learning emotional attitudes.

2. Upgrade the functionality of online learning platforms. With the support of information technology, process evaluation can be more intelligent. For example, It will be helpful to teachers if the online platform automatically push the analyzed information of class performance. And it will be helpful to students if online platform offers class learning information to students such as the average online learning duration and the average score of each process evaluation.

3. Set diversified process evaluation tasks. Efforts should not only focus on increasing the frequency of process evaluation or efficiency of grading and feedback, but also diversity of evaluation forms to encourage active learning, promote deep thinking and cultivate advanced abilities. Learning and evaluation activities such as discussions, case studies, group learning presentations, and peer evaluations are recommended.

5. References

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