

Research and Practice of Process Evaluation based on Chemical Principle Course

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Abstract

This paper discusses the characteristics, design and implementation of process evaluation. The learning evaluation based on the principles of chemical engineering is helpful to strengthen the monitoring of students' learning process, timely feedback of learning information, and help students to formulate learning strategies. It is an effective evaluation method of learning process under the network environment, and provides a powerful guarantee for improving the quality of teaching and learning under the network environment.

Keywords

Chemical Principle Course; Process Evaluation; Practice Research.

1. Introduction

With the development and improvement of the knowledge-based economy society, China's higher education focuses on cultivating people's innovative spirit and ability. While gradually establishing a new quality-oriented education and innovative education system, the reform of teaching content and curriculum system has also made important progress. However, in the construction of curriculum evaluation system in colleges and universities, there are still widespread problems such as "valuing knowledge over ability; Heavy memory, light innovation; The traditional unreasonable examination mode, which emphasizes theory and light operation, has gradually shown its restricting effect on improving students' quality education in an all-round way. Therefore, the construction of college curriculum evaluation system is more and more concerned by the society[1-3].

2. Main Problems Existing in the Current Curriculum Evaluation System of Colleges and Universities

Curriculum evaluation is a process of making objective judgments on students' curriculum learning activities and giving reasonable results by adopting various qualitative and quantitative evaluation methods and methods according to certain evaluation standards. The main problems existing in the current curriculum evaluation system of colleges and universities are as follows: insufficient understanding of the purpose and function of curriculum evaluation, misunderstanding of emphasizing evaluation and neglecting guidance; Low validity and single evaluation method make the examination become a single knowledge evaluation tool with more memorizing content and insufficient comprehensive and innovative ability; The evaluation content is unreasonable, limited to the basic knowledge and skills in the textbook, lack of comprehensive examination of students' knowledge, ability and quality, and the proportion of memory components is too large; Unreasonable test questions, excessive proportion of objective questions, and few comprehensive thinking questions and analysis questions are not conducive to the cultivation of students' comprehensive ability of thinking and analysis and the formation of innovative spirit. The evaluation index is single, and the

influence of factors on students' learning process and comprehensive ability in the evaluation system is not fully considered. This backward and single curriculum evaluation system makes it impossible for students to test their mastery of knowledge in the learning process, and at the same time, it gradually highlights the restriction effect on the educational goal of improving students' quality in an all-round way. Therefore, it is urgent to reform and innovate the current curriculum evaluation system. Educators should make more efforts in the reform and innovation of curriculum evaluation system, so as to improve students' theoretical level, stimulate their innovation ability and help students to establish the correct orientation of examination, which is the purpose of college education and teaching reform[4-6].

3. Status Quo of the Same Research Field at Home and Abroad

The teaching quality of the course is related to the quality of the whole undergraduate education, and the establishment of a qualified and effective evaluation system is conducive to the improvement of the subjective initiative of teachers and students, conducive to the organic combination of teaching and learning, but also conducive to the improvement of the quality of the whole university education. At present, many domestic colleges and universities are actively exploring and practicing the reform and innovation of college curriculum evaluation system: they have a new understanding of the purpose and orientation of curriculum evaluation; Gradually adopt diversified evaluation forms; Pay attention to all-round and whole-process evaluation; It is committed to improving students' ability to comprehensively analyze and solve problems. In foreign countries, curriculum evaluation system embodies more flexibility and diversity, and new standards are put forward for curriculum evaluation. The new evaluation tools change from the detection of knowledge memory to the detection of ability performance. In the United States, the government attaches great importance to the formulation and modification of teaching evaluation tools. The real-time formulation and use of new evaluation tools not only enables schools and teachers to pay more attention to the assumptions of teaching evaluation links, but also urges teachers to pay more attention to the research of new teaching methods, which effectively promotes the realization of curriculum objectives[7].

4. Main Problems Existing in the Current Curriculum Evaluation System of Colleges and Universities

4.1. Reform Contents and Objectives

Establish the evaluation system of chemical principle course. The orientation of the curriculum evaluation system is mainly reflected in two aspects: first, the curriculum evaluation system should reflect the current trend of educational development, and should reflect the cultivation goal of comprehensive and harmonious development, that is, cultivate people with good character, practical ability and innovative spirit, and strong ability to adapt to the society. Second, the curriculum evaluation system should reflect the modern teaching concept, the development view of students' development, attach importance to the concept of activities and communication in the teaching process, and respect the difference view of students' individuality. The curriculum evaluation system established under this guidance is not only conducive to the cultivation of individual students, but also conducive to the realization of the whole goal of higher education.

4.2. Problems to be Solved

4.2.1. The Effectiveness of the Evaluation System

The effectiveness of chemical engineering principle course evaluation system means that the evaluation standard is in line with the cultivation objectives and characteristics of course teaching, can reflect the inherent requirements of modern teaching, and is recognized and

accepted by the personnel engaged in specific teaching and the majority of students. The effectiveness of the course evaluation system of chemical engineering principles depends largely on the effectiveness of the evaluation criteria. The effectiveness of evaluation is the basic requirement to make the evaluation process proceed smoothly. Therefore, the effectiveness of curriculum evaluation system should achieve "three abilities" : to reflect the established teaching objectives, to reflect the inherent laws of teaching, to show the rich and diverse characteristics of curriculum teaching itself, so as to make the curriculum radiate vitality.

4.2.2. Openness of Evaluation System

Teaching process itself is a very complicated system, has very rich connotation, to evaluate the teaching process of being framed by a uniform standard for teachers and students' behavior, a course evaluation system cannot cover a multitude of complicated teaching behavior, so the modern curriculum evaluation system should be open. This not only leaves room for the evaluator to master the standard in the evaluation process, but more importantly, it should leave a wide space for teachers and students to create.

4.2.3. Evaluation System Feasibility

Curriculum evaluation system should satisfy the urgent requirement of the current society, conforms to the developing trend of education reform, at the same time should also be operable, especially the evaluation system object involves more people's mental state and psychological changes, the implicit state evaluation system, so the evaluation of the operability is especially important, otherwise it is a good implementation of the evaluation standard is not true.

5. Implementation Plan, Research Method, Implementation Plan and Feasibility Analysis

"Principles of chemical engineering course" is a professional required course of zhoukou normal college, student course selection each semester, more than three hundred people, involved in chemical engineering and technology, applied chemistry, material chemistry and biological engineering, biological medicine, etc, to many students, professional, the characteristics of large amount of teaching time, and already had the requirement of online autonomous learning. This course as the research object, based on the rich learning process information, research and establish a new process learning evaluation mechanism, which is helpful to strengthen the evaluation of students' performance in the learning process, and provides a strong guarantee for improving the quality of teaching and learning in the network environment.

5.1. Evaluation Methods Adopted

From the perspective of the subject of evaluation, curriculum evaluation adopts self-evaluation, group evaluation and teacher evaluation. It is feasible to carry out independent and research-based learning activities in the course, considering the experimental and practical content of the course and the fact that most students have certain basic knowledge. Students can be divided into groups according to their learning interests, and teachers set learning objectives for each group. Group members develop their own learning steps and strategies, as well as group evaluation standards, and complete the learning objectives through division of labor and collaboration. After reaching the goal, the teacher will evaluate the achievement of the group's learning goal first, and then the group members will get their own evaluation by way of self-evaluation and mutual evaluation. Since group learning activities are carried out in the network platform environment, teachers and partners can give timely feedback to the evaluation, and the evaluation of a learning objective will not be regarded as the final course evaluation, so that students can adjust their status in time and actively engage in the next learning activity. The evaluation can be divided into early placement evaluation, middle process evaluation and final

evaluation. The practical teaching of chemical principle course is an important part of the whole teaching system, and the overall coordination of the teaching process must be considered. Differences in students' foundations, interests and abilities lead to a variety of practice processes. The evaluation of teaching process should have strong flexibility and the evaluation of teaching effect should adopt various forms. In addition, since practical teaching needs to be individualized, the complexity of teaching process is higher than that of general theoretical teaching, which is not only reflected in the design of teaching process, but also in quality control and assessment. In order to improve the teaching quality, it is necessary to have an effective and objective and reasonable evaluation method.

5.2. Evaluation Methods Used

Process evaluation scale. Evaluation scale is an important evaluation tool for process evaluation. Its evaluation content is mainly unquantifiable, that is, it mainly evaluates students' learning process, learning method and learning attitude. According to different teaching objectives, teachers can formulate the corresponding content and weight of evaluation indicators, or the group leader or group members can formulate indicators through consultation. The indexes are divided into group evaluation indexes and individual evaluation indexes. Scientific and reasonable evaluation quantity is helpful to standardize students' evaluation behavior and influence students' learning behavior.

Learn to record data statistics. The principle of chemical engineering course has carried out network teaching for many years, and many students' learning activities are carried out under the network platform. The advantages of the network environment as a recording carrier are given full play, and the rich learning record information provided by the network is used as the basis for evaluation, which is real-time, scientific and accurate. Through the statistical data of students' online learning records, students' learning situation is summarized from many aspects, such as entering the course, downloading teaching materials, submitting homework and so on. Using data mining method to further analyze the statistical data, students' learning behavior characteristics can be obtained, which is convenient for the timely adjustment of learning strategies and teaching strategies.

6. Conclusion

Under the background of education in the information age, continue to use the old with an exam Summative evaluation system, as a judge student already cannot adapt to the need of modern education, also did not play the advantage of mass learning under the network environment information, more can't adapt to the national education development compendium of comprehensively improve the quality of higher education, improve the quality of personnel training requirements. Therefore, the establishment of a new learning evaluation mechanism based on process tracking is helpful to strengthen the evaluation of students' performance in the learning process, and can provide a strong guarantee for improving the quality of teaching and learning in the network environment.

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