

# Research on the Process Assessment of Theoretical Professional Courses in Universities

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**Abstract:** Process assessment refers to the assessment of students in stages during the teaching process, aiming to comprehensively assess their knowledge, abilities, and comprehensive qualities, enhance their learning awareness and initiative, and strengthen their understanding, mastery, and application of the knowledge they have learned. This article analyzes the connotation, purpose, form, method, and implementation steps of process assessment, and combines the characteristics of theoretical professional courses to propose specific strategies and suggestions for process assessment of theoretical professional courses in universities, in order to provide reference for improving the teaching quality and effectiveness of theoretical professional courses in universities.

**Key words:** Process Assessment; Theoretical Professional Courses; Teaching Quality

## 1. Introduction

### 1.1 Background and Implications

Theoretical professional courses refer to professional courses with theoretical knowledge as the main content and the main goal of cultivating students' basic theoretical ability and innovative thinking ability. Such as mathematics, physics, philosophy, economics and other professional courses. This kind of professional course has high requirements for students, which not only requires students to master solid basic knowledge, but also requires students to have strong logical thinking ability, problem analysis ability and problem-solving ability. the traditional education and teaching mode is often based on outcome-based assessment, that is, comprehensive evaluation of students in the form of final exams or course papers, which can easily lead to test-oriented,

one-sided, and shallow learning of students, ignoring the guidance, motivation and feedback of students in the teaching process, and can not effectively promote students' deep learning and active learning. Therefore, it is necessary to reform the education and teaching mode and introduce process assessment to improve the quality and effect of education and teaching. [1-6]

### 1.2 Purpose and Content of The Study

The purpose of this paper is to explore the connotation, purpose, form, method, and implementation steps of the process assessment of theoretical professional courses in colleges and universities, analyze the role and significance of process assessment in improving the quality and effect of education and teaching of theoretical professional courses, and put forward specific strategies and suggestions for the process assessment of theoretical professional courses in colleges and universities based on the characteristics of theoretical professional courses.

### 1.3 Research Methods:

This paper uses the methods of literature analysis, case analysis and logical analysis, analyzes the current situation and experience of the process assessment of theoretical professional courses in colleges and universities at home and abroad by consulting relevant literature, and systematically studies the process assessment of theoretical professional courses in colleges and universities based on my practical experience in teaching theoretical professional courses in colleges and universities for many years.

## 2. The Connotation and Purpose of Process Assessment

### 2.1 The Connotation of Process Assessment

Process assessment refers to the assessment of students in stages in the teaching process,

aiming to comprehensively assess students' knowledge, ability and comprehensive quality, enhance students' learning consciousness and initiative, and strengthen the understanding, mastery and application of what they have learned. the process assessment and the result assessment complement each other and constitute a complete system of education and teaching evaluation. Process assessment is not only the teacher's evaluation of students, but also the teacher's evaluation of himself, but also the interaction and communication between teachers and students. the process assessment is conducive to the formation of a good teaching feedback mechanism, which promotes teachers to improve teaching methods, improve teaching efficiency, promote students' in-depth learning, and improve learning results.

## 2.2 The Purpose of The Process Assessment

The purpose of the process assessment is to achieve the following objectives:

- (1) Stimulate and sustain students' interest and motivation in learning. Process assessment can stimulate and maintain students' intrinsic and extrinsic motivation by setting reasonable assessment tasks and standards, giving students clear expectations and feedback, allowing students to clarify their learning goals and progress, and enhancing their self-confidence and sense of achievement.
- (2) Cultivate and improve students' self-directed learning ability. Process assessment can guide students to participate in various forms of activities such as classroom discussions, group cooperation, extracurricular reading, and practical inquiry, so that students can actively acquire, process, analyze, and apply knowledge, and cultivate and improve students' independent learning ability.
- (3) Detect and promote students' knowledge acquisition and ability development. the process assessment can evaluate students through diversification, multi-angle and multi-level, test students' mastery of theoretical knowledge at different levels such as understanding, memory and application, and test students' development level in logical thinking ability, problem analysis ability, problem-solving ability, etc., so as to promote the overall improvement of students' knowledge and ability.
- (4) Feedback and improvement of the quality

and effectiveness of education and teaching. Process assessment can improve the quality and effectiveness of education and teaching by collecting, analyzing, and giving feedback on the problems and difficulties encountered by teachers and students in the process of education and teaching, and timely adjusting education and teaching strategies and methods.

## 3.The form and Method of Process Assessment

### 3.1 The Form of Process Assessment

The form of process assessment can be flexibly selected according to the teaching content, objectives, methods, environment and other factors, and can generally be divided into the following types:

- (1) Classroom assessment. Classroom assessment refers to the assessment of students in the course of classroom teaching, mainly including classroom questions, class discussions, class assignments, class quizzes, etc. Classroom assessment can detect students' mastery of classroom knowledge in a timely manner, stimulate students' sense of participation and thinking activity, adjust the teaching rhythm and atmosphere, and promote interaction and communication between teachers and students. Advanced Algebra is a basic compulsory course for mathematics majors, with abstract and logical content. Interspersed with appropriate exercises for classroom quizzes when explaining the course content in the classroom can not only understand the mastery of students, but also serve as a part of the process assessment, which can better mobilize students' enthusiasm for learning.
- (2) Usual assessment. Ordinary assessment refers to the assessment of students outside of classroom teaching, mainly including extracurricular reading, extracurricular homework, experimental reports, thesis writing, practical projects and other forms. the usual assessment can expand students' knowledge horizons, cultivate students' independent learning ability, test students' ability to apply theoretical knowledge, and promote students' innovative thinking ability. As a part of the process assessment, the Advanced Algebra course assigns students course-related mathematics extracurricular reading tasks every semester, which can not only stimulate

students' interest in learning, but also broaden students' academic horizons and strengthen students' professional background.

(3) Stage assessment. Stage assessment refers to the assessment of students according to a certain time or content division in the teaching process, mainly including unit tests, mid-term exams, final exams and other forms. the stage assessment can comprehensively evaluate students' mastery of knowledge and ability in a certain stage, feedback students' learning progress and results, and promote students' review and consolidation of what they have learned. As a part of the process assessment, a chapter test is set at the end of each chapter of the "Advanced Algebra" course, which can not only strengthen students' mastery of theoretical knowledge, but also find and solve problems in time.

### 3.2 Methods of Process Assessment

The method of process assessment can be flexibly selected according to the assessment content, objectives, standards and other factors, and can generally be divided into the following types:

(1) Written. the written test refers to the assessment of students in written form, mainly including multiple-choice questions, fill-in-the-blank questions, true/false questions, short-answer questions, essay questions, etc. the written test can objectively evaluate students' mastery of theoretical knowledge, and test students' memory, comprehension, analysis and other abilities.

(2) Oral test. the oral examination refers to the assessment of students in oral form, mainly including question and answer questions, report questions, debate questions and other forms. the oral test can subjectively evaluate students' mastery of theoretical knowledge, and test students' ability to express, communicate, and logical.

(3) Operate. Operation refers to the assessment of students through actual operation or simulated operation, mainly including experimental questions, design questions, programming questions and other forms. the operation can intuitively evaluate the students' application of theoretical knowledge, and test the students' hands-on ability, creative ability, problem-solving ability and other abilities.

(4) Appraise. Evaluation refers to the assessment of students through the evaluation

of students' works, performance, behavior, etc., mainly including grading questions, comment questions, evaluation forms and other forms. Evaluation can comprehensively evaluate students' knowledge, ability and comprehensive quality, and test students' self-evaluation ability, peer evaluation ability, teacher evaluation ability and other abilities.

## 4. The Implementation Steps of The Process Assessment of Theoretical Professional Courses in Colleges and Universities

### 4.1 Determine the Objectives and Content of the Process Assessment

The objectives and contents of the process assessment should be consistent with the teaching objectives and contents, reflect the characteristics and requirements of theoretical professional courses, and reflect the laws and principles of education and teaching. When determining the objectives and content of the process assessment, the following principles should be followed:

(1) Comprehensive. the objectives and content of the process assessment should comprehensively cover the teaching content, reflect the level and structure of the teaching objectives, and assess the mastery of students' knowledge, ability and comprehensive quality.

(2) Pertinence. the objectives and content of the process assessment should be based on the characteristics and requirements of theoretical professional courses, highlight the importance and difficulty of theoretical knowledge, and assess students' ability to understand, analyze and apply theoretical knowledge.

(3) Viability. the objectives and contents of the process assessment should be in line with the actual situation of education and teaching, consider the conditions and levels of teachers and students, and select appropriate assessment forms and methods to ensure the effectiveness and fairness of the assessment.

### 4.2 Design the Tasks and Standards of the Process Assessment

The tasks and standards of the process assessment should match the objectives and content of the process assessment, reflect the characteristics and requirements of theoretical professional courses, and reflect the laws and principles of education and teaching. the following principles should be followed when

designing the tasks and standards of process assessment:

(1) Moderation. the tasks and standards of the process assessment should be moderately challenging to students, and should not be too easy to cause students to lose interest and motivation, nor too difficult to cause students to lose confidence and sense of achievement, and a certain difficulty gradient and difficulty ratio should be maintained.

(2) Clarity. the tasks and standards of process assessment should be clearly informed to students, so that students can clearly know what they want to do, how to do it, why they do it, and to what extent, so as to enhance students' sense of goal and responsibility.

(3) Diversity. the process assessment can overcome the shortcomings of the one-time final closed-book examination. the process assessment should adopt a variety of multi-level and multi-angle assessment methods, including classroom learning, classroom tests, coursework, class discussions, special discussions, mid-term assessments, practical teaching activities, course papers, online course learning, etc.

## 5. Conclusion

This paper takes theoretical professional courses in colleges and universities as the research object, discusses the connotation, purpose, form and method of process assessment, analyzes the role and significance of process assessment in improving the teaching quality and effect of theoretical professional courses, and puts forward the implementation steps and suggestions of process assessment of theoretical professional courses in colleges and universities. This paper argues that process assessment is a student-centered, outcome-oriented, and continuous improvement teaching evaluation method, which can stimulate and maintain students' interest and motivation in learning, cultivate and improve students' independent learning ability, detect and promote students'

knowledge mastery and ability development, and feedback and improve the quality and effect of education and teaching. In order to effectively implement the process assessment, colleges and universities should determine the objectives and content of the process assessment, design the tasks and standards of the process assessment, select the appropriate form and method of the process assessment, establish and improve the management and evaluation mechanism of the process assessment, strengthen the guidance and training of the process assessment, and create a good atmosphere and culture of the process assessment.

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