

Introduction to the Higher Mathematics Curriculum in Vocational Colleges “Two-step”

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ABSTRACT: With the rapid development of higher vocational education in our country, to improve the education quality of teaching in higher vocational colleges, unceasingly to reform the course system and teaching methods. The higher mathematics curriculum reform of vocational colleges should carry out the "two-step". This paper deals with the specific content of the "two-step" of the higher mathematics course of higher vocational colleges.

KEYWORD: Vocational Colleges; college mathematics; two-step

1 THE CURRENT STATUS OF THE HIGHER MATHEMATICS COURSE REFORM

In recent years, the rapid development of higher vocational education in our country, and has realized the “increase” in the course of development to the transition of the “high quality”. In order to improve the education quality of teaching in higher vocational colleges, unceasingly to reform the course system and teaching methods.

Outstanding performance in the students' practice, at the same time, the basic courses like college English, college Chinese, also in the reform of higher mathematics, etc. Higher mathematics course in higher vocational colleges first is the reform of teachers' ideological transformation: from the integrity of the theoretical system and the logic of mathematics knowledge, teachers begin to pay close attention to the application of mathematical knowledge in specialized course, put forward "for the purpose of application, as required, for sufficient degree", pay attention to students' mathematics knowledge analysis and problem solving ability, strengthen the mathematics knowledge application in the professional study. Second is the reform of higher mathematics teaching content: at present, most mathematical theorem, formula derivation and calculation method and calculation of the complex skill has been omitted, instead adds some examples of applying mathematical theorems and formulas in specialized courses. The last is the reform of higher mathematics teaching method: break the traditional teachers' teaching, students' practice, in recent years, teachers make full use of modern information

technology, a variety of mathematical software has entered into mathematics classroom, such as mathematics greatly facilitate the calculation, drawing, such as the learning process, save more time to learn. At the same time, using the Internet to provide students with a rich, interactive learning resources and learning methods.

2 THE HIGHER MATHEMATICS COURSE IN HIGHER VOCATIONAL COLLEGES “TWO-STEP”

2.1 *The higher mathematics course in higher vocational colleges “two-step” basic content*

Higher mathematics as a compulsory course in majors in higher vocational colleges in engineering, has a dual nature: one is bear the function of quality education, has the nature of general class, as a common course of compulsory; 2 it is to bear the service function for the professional course learning, has the nature of the course, as a professional basic course. These two properties with relative independence, can through the higher mathematics course in higher vocational colleges to implement the “two-step”.

The first step is to university mathematics general courses during the first semester. University mathematics general classes are both professional, Common course required for the big new student, teaches students the basic concepts of university mathematics and basic ideas. Such as: to teach students what is the limit, derivative of the rate of change of thought, the definite integral infinitesimal

method and so on, by imparting knowledge, not only broaden the students' knowledge view, what is more important to the training of the students' thinking and the cultivation of their non-intellectual factors, like thinking logic, rigor, like persistence, etc. The second step is to open a professional math class in the second semester. Professional math class is for students to open content. Different specialty, different professional math or professional math class. As business English professional don't open professional math class, various kinds of economic math can open economy, various kinds of engineering project can be set up to math class. Various kinds of machinery machinery can be set up to math class, etc. Professional math class is based on professional training objectives to focus on the professional and applied, professional service refers to the math class should be specialized fundamental course and specialized course; Applied that practicality is index of learning in the practical application of professional knowledge. Teach students the knowledge of professional class used in and the method. Such as: the students calculation methods and application of limit, derivative and definite integral in the calculation methods and application, etc. Among them, the calculation method which make use of mathematical software, and the application of knowledge is mainly driven by "professional case".

2.2 *The "two-step" teaching*

The higher mathematics course in higher vocational colleges "two-step", asked the theoretical connotation of mathematical knowledge itself is not big, but its extension related to the professional course, a very wide range, strong applicability.

2.2.1 *"Two-step" mathematics teaching material*

"Two-step" require general mathematics and mathematics teaching material into university mathematics. Professional mathematics at least into economic class mathematics, engineering mathematics, mechanical mathematics, etc. Under the categories, each professional will be editing the teaching material or notes, at this time of mathematics teaching material, the name changed to "xx professional applied mathematics", this kind of math teaching in professional problem, for example leads to mathematical knowledge, and the application of mathematical knowledge reflected in the professional.

2.2.2 *"Two-step" teaching method*

"Two-step" in the first step, the university general education, a professor of mathematics teaching content can be mainly adopts the current teaching

methods: use the blackboard, teaching and discussion. But the second professional mathematics teaching method reform requires a larger, mainly use "task drive", "project teaching", "inquiry learning" teaching method to teach in the professional use of mathematical knowledge, reflect professional applied mathematics, and in the specialized mathematical methods used in the course of teaching, usually in the math lab using mathematics software to implement.

2.2.2 *"Two-step" way of evaluation*

The first step in the "two-step", the university general mathematics evaluation hierarchy. Can be divided into excellent, good, qualified and unqualified four levels, the level is not qualified to rebuild, the inspection to take multiple assessment, pay attention to the combination of process inspection and final exam. Process detection is mainly composed of students from grade evaluation, mutual and teacher evaluation; Title and the final exam to be unified, unified marking. And the second step professional math examination is 0. Exam title by professional class together with the math class, mutual evaluation.

3 IMPLEMENTATION OF THE "TWO-STEP" TWO QUESTIONS

3.1 *The implementation of the "two-step" need to the corresponding condition*

First of all, the higher mathematics course in higher vocational colleges of the implementation of the "two-step" need the support of policy. "Two-step", the first step of both professional Open University mathematics general common course required, higher vocational colleges need to even higher levels of the government policy that can be implemented. Second, the higher mathematics course in higher vocational colleges of the implementation of the "two-step" in higher vocational colleges need hardware support. "Two-step" the second step requires the use of mathematical software to solve mathematics problems, so you need to in higher vocational colleges to establish mathematics laboratory to ensure the implementation of the "two-step".

Finally, the higher mathematics course in higher vocational colleges of the implementation of the "two-step" of higher vocational colleges need teachers of mathematics learning. Higher mathematics course of the implementation of the "two-step", the connotation of the theory of mathematics knowledge itself is not big, but its extension related to the professional course, a wide range of applicability is very strong. And mathematics teachers in higher vocational colleges

are mainly mathematics specialized graduation, little understanding of the professional knowledge of teaching students, which requires the teacher must first learn professional curriculum system, and extract the typical professional problem, integrated application of mathematical knowledge, on the teaching content, from the perspective of the problem solving, contact professional basic course and specialized course focuses on the most direct, the most closely mathematical knowledge, professional mathematical examples as often as possible. At the same time, the mathematics teachers need to learn and master a variety of mathematical software operation, use.

3.2 *The “two-step” can be changed into “three steps”*

According to the requirement of the students, some students choose to “rise the degree”. These students study math in the fifth semester, this is “Step 3”. mathematics course of Step 3” is a elective courses, On this step there is not test. These students study math for the purpose of “rise the degree”.

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