

Research on the Reform of Higher Vocational Mathematics Curriculum from the Perspective of Professional Ability

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Keywords: Higher vocational colleges; Higher vocational mathematics; Curriculum reform; Professional ability

Abstract: With the continuous deepening of the reform of higher vocational education, mathematics, which is one of the subjects of public basic courses in higher vocational education, is constantly being upgraded. "Higher education" and "vocational education" together constitute a higher vocational education, that is, to emphasize the application of practical talents that meet the needs of the social industry. This paper will analyze the problems existing in the current mathematics curriculum teaching in higher vocational colleges, and clarify the significance of mathematics teaching in higher vocational colleges from the perspective of professional ability, and give specific measures and suggestions.

1. Introduction

With the continuous deepening of educational reform in higher vocational colleges, in this context, the reform of mathematics curriculum for higher vocational education for one of the public basic courses is also ongoing. The main enrollment targets of higher vocational colleges are from different high school graduates and various secondary vocational college graduates. Higher vocational colleges have also continued the curriculum arrangement of secondary vocational schools. It is two parallel "types" of education with ordinary higher education. Higher vocational education is more focused on cultivating hands-on, practical and socially applied professionals. Therefore, it is an important part of the training of vocational ability and the reform of forward-looking higher vocational education in the reform of higher vocational mathematics curriculum system. At present, there are still many problems in the opening of mathematics courses in higher vocational colleges. It is not good to highlight the advantages of disciplines. At the same time, the cultivation of vocational ability of higher vocational students is not in place. Therefore, the reform of higher vocational mathematics curriculum from the perspective of professional ability is particularly important.

2. Current Situation and Problems in the Teaching of Contemporary Higher Vocational Mathematics Courses

2.1 The awkward current high vocational mathematics curriculum

Higher vocational education, with its unique educational model, aims to cultivate professional applied talents. Higher vocational colleges pay attention to cultivating students' hands-on practical ability and operational ability, which will inevitably lead to more emphasis on "professional courses" in the curriculum. As a public basic course mathematics class, it has been in a relatively embarrassing position in recent years. [1] On the one hand, higher vocational colleges are also constantly strengthening the practice of mathematics courses, such as the addition of mathematics experiment courses, mathematical modeling courses. Colleges and universities hope to strengthen the complementarity between mathematics curriculum and vocational ability training, so as to improve students' core professional ability. However, on the other hand, in order to complete the core competency system structure, higher vocational colleges have added professional courses, reduced public basic courses, and constantly marginalized mathematics classes. Coupled with the problem of higher vocational students, because higher vocational colleges are more suitable for graduates of secondary vocational education, they are very weak on the basis of cultural courses. After students enter higher vocational colleges, the difficulty and complexity of the course will be postponed and deepened on the basis of the original secondary vocational school. This will lead to a decline in the interest of many students, so the reform of higher vocational mathematics courses is imminent.

2.2 The lack of higher vocational mathematics teaching to meet the actual needs of society

The essential difference between higher vocational colleges and ordinary higher education institutions is that the emphasis of talent training is different. Ordinary colleges and universities focus on cultivating theoretical and disciplinary research talents, while higher vocational colleges focus on training professional applications. Professional professional ability. Therefore, this requires that the teaching objectives of higher vocational colleges must match the current status of the industry and the needs of the social profession. However, due to various reasons, the teaching of most higher vocational colleges is still limited to the scope of the school, and the sensitivity to the current development trends of related industries is not enough. It also lacks the professional teaching objectives and the cultivation of students according to the actual situation and needs of the society. Program. [2] The mere use of traditional theoretical teaching or cramming sea teaching does not enable students to apply what they have learned, nor does it reflect the superiority of mathematics. The mathematics discipline is a very comprehensive discipline. It has inextricably linked with other public or professional courses, and has a subtle influence on the development of vocational ability and professional accomplishment of higher vocational students. For example, through the logical thinking of mathematics, students can exercise their business ability in the future. Through the knowledge transfer of mathematics, the summary can guide students' ability to adapt to their careers in the future. However, at present, the teaching methods of business schools in higher vocational colleges are mostly based on the traditional methods of training talents. The knowledge and skills taught in the classrooms are out of line with the actual situation of current social occupations. In addition, the cooperation between schools and enterprises in higher vocational colleges has not attracted enough attention. School-enterprise cooperation is either not universally carried out, or school-enterprise cooperation is only focused on formalities. It does not really make good use of the efficient teaching methods of school-enterprise cooperation. The above-mentioned various reasons have jointly caused the problems of the current high vocational mathematics

teaching and the actual needs of social occupation.

2.3 The lack of teaching curriculum in the training course

Due to the teaching characteristics of higher vocational colleges, in the design of teaching programs, we should pay equal attention to both theoretical teaching and practical education, and even increase the investment in practice and practical teaching. However, extensive practical verification shows that the teaching in higher vocational colleges is based on the theoretical teaching in the classroom, and the practical teaching has not received the attention it deserves. In particular, it is also the same as the mathematics teaching of public basic courses. Although vocational colleges offer practical training courses, they are mostly in the form, and they have not achieved school-enterprise cooperation. There is also a lack of attention to the needs of enterprises for the vocational ability of higher vocational students, which leads to the unreasonable arrangement of mathematics courses. Schools and teachers pay too much attention to theoretical teaching. The fundamental reason is that the parties are not aware of the importance of mathematics training in higher vocational schools, and the distribution of teaching resources is mainly based on theoretical teaching. This leads to students only mechanically mastering the knowledge points in the field of mathematics curriculum theory, and can not effectively integrate these knowledge content, and promote the ability of individuals to learn mathematics and related skills. The mathematics curriculum of vocational colleges does not pay attention to the hands-on operation of the training. In the end, it will inevitably lead to the problem of the students' ability to analyze and solve problems, and the gap between the actual needs of the society and the actual needs of the society.

2.4 Evaluation system

In the daily teaching of higher vocational mathematics, in addition to the problem of teaching methods, a single evaluation system is also one of the important factors hindering the development of the subject. [3] The current form of assessment of mathematics in public basic courses is actually to continue to use the assessment methods in the secondary vocational teaching process, mostly in the form of closed-book examinations, in a single form. Or according to the students' usual attendance, homework and final theoretical examinations, the evaluation of the evaluation results is too narrow, and it is impossible to truly and scientifically evaluate the students' learning outcomes. Students can't really grasp what is lacking in their current learning, which aspect is what they need to maintain, and which aspect is their true core competitiveness. In the same way, students can't realize the relationship between mathematics and professional ability through such evaluation methods, and make mathematics learning and higher vocational teaching goals far and wide. Such an evaluation system cannot provide a basis for the improvement of the subsequent teaching mode, and it also seriously affects the effectiveness and accuracy of self-reflection and self-improvement of teachers and students.

3. The necessity of the reform of higher vocational mathematics curriculum from the perspective of professional ability

According to the positioning, higher vocational colleges should focus on cultivating professional application talents. Therefore, students who graduate from higher vocational colleges should have good professional ethics, a solid professional basic knowledge system and excellent professional skills application skills, and should be able to get started with specific work as soon as possible. To achieve this goal, higher vocational colleges should focus on developing students' professional knowledge, professional skills, professional ethics, and social abilities. According to the actual

situation, the current education of higher vocational colleges still has many problems, such as inconsistent with the actual needs of enterprises, the teaching process pays too much attention to theoretical teaching, and neglects teaching practice. Similar problems exist in the mathematics curriculum of higher vocational colleges. Even because of the particularity of mathematics, the teaching of higher vocational mathematics is out of touch with reality, and the phenomenon of biased theory is more serious. Therefore, no matter from the problems existing in the current mathematics teaching in higher vocational colleges, or from the high requirements of the society and enterprises for the graduates of higher vocational colleges, it is necessary to carry out the reform of higher vocational mathematics curriculum from the perspective of professional competence.

4. Measures for the Reform of Higher Vocational Mathematics Curriculum from the Perspective of Professional Ability

4.1 Establish a diversified training goal

The modern education concept generally agrees that students are the main body of teaching activities, teachers are only the main guides of teaching activities, and all teaching activities should be student-centered. The traditional higher vocational mathematics teaching has a single teaching goal, which can not reflect the students' real interest in learning, and does not meet the needs of the current society for the cultivation of professional ability. After the introduction of a diversified teaching model, in the formulation of diversified teaching objectives, schools and teachers can establish a variety of innovative teaching thinking, which can fully reflect the individual differences of each student in the teaching objectives. At the same time, according to the individual differences of students, promote the mutual penetration of mathematics teaching and vocational skills training, and carry out diversified mathematics curriculum models, such as mathematics skills class, mathematics major courses, mathematics culture literacy classes, etc., through diversified teaching objectives. Promote the adjustment of professional ability in higher vocational mathematics courses. In addition, the introduction of diversified teaching can also strengthen the understanding and mastery of schools and teachers on the current development trend of mathematics education, and enhance their sensitivity to the development of professional ability, so that schools and teachers can keep up with career development and be employment-oriented. With the ultimate goal of student professional ability, and at the same time, according to market demand and employment situation, develop the training objectives of higher vocational mathematics curriculum.

4.2 Adhere to the teaching method to infiltrate vocational education, professional ability as a guide

It is in line with the needs of the current society that higher vocational colleges train talents with relevant professional skills in the society. With the rapid development of society, the traditional teaching model has been unable to keep up with the current industry development needs. In order to cultivate professional talents that meet the needs of current businesses, higher vocational colleges must reform their teaching methods. [5] First of all, we must promote the basic-professional-practice trinity integrated teaching method, and learn the mathematics theory knowledge to consolidate the students' professional foundation; then combine the mathematics professional knowledge to infiltrate the students' professional quality; improve the students' handling through the teaching practice course. The ability of the problem and the ability to work. In addition, we must improve the diversity of mathematics teaching process in colleges and universities, and improve students' interest in learning and self-learning through training, internships, school-enterprise cooperation,

etc., which are employment-oriented and vocational-oriented. To improve the teaching quality of teaching in higher vocational colleges.

4.3 Establish a scientific and sound evaluation system

After establishing a diversified teaching goal to adopt an employment-oriented teaching method, a scientific and reasonable evaluation system is needed to form a closed-loop feedback mechanism for the entire teaching activity. Without a proper assessment system, teachers can't grasp his real teaching effect, and it is impossible to know where it is worthwhile to improve in the follow-up teaching process. Without a proper evaluation system, students can't fully and accurately study the self. Make judgments and check for missing vacancies. Therefore, we must establish a scientific, reasonable and perfect evaluation system to replace the current one-sided, single assessment mechanism. In the development of a scientific evaluation system, it is necessary not only to pay attention to the mastery of the theoretical knowledge of students, but more importantly, to evaluate whether he has a high level of practical skills from multiple dimensions, and can learn from students' learning attitudes, academic achievements, and practical courses. The overall performance, practical ability, practical problem-solving ability and subsequent development focus are used to comprehensively judge a student's mathematics professional literacy, so that students have an accurate understanding of their shortcomings, advantages and core competitiveness.

5. Conclusion

According to the positioning and characteristics of higher vocational colleges, the design and teaching of higher vocational mathematics courses should be able to cultivate students' good professional ethics, solid professional basic knowledge system and excellent professional skills application ability. In view of the problems existing in higher vocational mathematics, we must reform the vocational mathematics curriculum from the perspective of professional ability to ensure the high quality of higher vocational mathematics courses.

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