Computer Analysis of the Embodiment of Vocational Quality Training in Higher Mathematics in Higher Vocational Colleges under the Background of "Double High Plan"

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**Abstract.** In the era of computer information, the demand for talents with high information literacy is becoming more and more urgent, which brings new challenges to the talent cultivation of higher specialized colleges. However, there are some deficiencies in the current vocational education, for instance the imbalance between the demand and supply, the low quality of talent supply and the nonstandard supporting policies and procedures. Based on this, this paper first analyzes the connotation and policy background of the "double high program", then studies the current situation of higher mathematics teaching in Higher specialized colleges under the background of double high program, and finally gives the teaching strategies of Higher Mathematics in Higher specialized colleges under the background of double high program.

**Keywords:** Vocational Quality Training, Higher Mathematics, Double High Program

1. **Introduction**

With the rapid growth and iteration of information tech represented by computer tech, all walks of life have an increasingly urgent demand for high-quality talents, especially those with various professional abilities and qualities, which puts forward higher requirements and expectations for the cultivation of talents in higher specialized colleges⁴. In order to make the cultivation of talents' professional quality in Higher specialized colleges better meet the needs of society and industry, higher specialized education should not only improve its teaching quality, but also carry out teaching process innovation according to its own characteristics, so as to make higher specialized education more vitality and creativity.

In addition, with the deepening of the depth and intensity of the application of computer tech in all walks of life, as well as the continuous promotion of the transformation and upgrading strategy of various industries, higher professorship education also needs to carry out targeted training of talents related to the growth of various industries, so as to promote the continuous improvement of the teaching quality of courses represented by higher mathematics⁵. However, the current demand and supply of Professorship education in higher specialized colleges is unbalanced, the quality of talent supply is low, and the supporting policies and procedures are not standardized, so it is urgent to reform. Therefore, it is of great actual value to study the value logic of higher mathematics curriculum.
construction in Higher specialized colleges and the relationship between internal and external influence of talent training. It is of great actual value for higher professorship education to get rid of the predicament of talent cultivation and formulate targeted reform strategies for improving the quality of curriculum represented by higher mathematics.

2. The Connotation and Policy Background of "Double High Level Plan"

2.1. The policy background of "double high plan"
First of all, the double high school program is the product of the education environment with Chinese characteristics. Its main purpose is to build high-level vocational colleges and high-level professional education[3]. Under the spiritual requirements of establishing professorship education with Chinese characteristics, establishing professorship education with Chinese characteristics is the value foundation and source of realizing professorship education. Secondly, under the policy background of the "double high school" program, it is required that the talent training objectives of higher specialized colleges should reflect the characteristics of professorship education and highlight the professionalism, diversity and actuality, as shown in Figure 1 below.

![Figure 1](image-url)

**Figure 1.** Characteristics of professorship education in the orientation of personnel training objectives

In addition, under the policy background of the "double high" program, higher mathematics teaching reform is required to pay more attention to the standard guidance, promote the systematization and depth of macro guidance, the refinement and integration of content and link, and the standardization and flexibility of curriculum setting.

2.2. The connotation of "double high plan"
First of all, under the background of the "double high" program, vocational colleges are required to focus on industrial growth and promote the deep integration of production and education. Secondly, it should promote the rationalization of the structure of skilled workers, eliminate the extreme shortage of highly skilled personnel, and eliminate the bottleneck restricting the growth of related industries.

In addition, it is necessary to highlight the connotation and quality of talents in higher specialized colleges, cultivate high-quality technical talents, and pay attention to the connotation deepening and quality improvement. Through the construction of double qualified personnel, it should pay more attention to the structural optimization, gather the energy coupling effect of multiple subjects, and improve the echelon structure of higher specialized colleges, give full play to the synergistic effect among educational institutions, higher specialized colleges and social industries, and realize the same frequency effect under complementary advantages.

3. Current Situation of Higher Mathematics Teaching in Higher specialized colleges Under the Background of Computer Analysis Double High School Program

3.1. Students' mathematical foundation is relatively weak
First of all, due to the continuous expansion of university enrollment in recent years, the quality of students has been declining, especially in higher specialized colleges. Secondly, with the advent of the Internet era represented by computer tech, the requirements for students' comprehensive literacy,
especially information literacy, are getting higher and higher. However, the current information literacy of most vocational college students is seriously insufficient[4].

In addition, higher specialized college students' acceptance of higher mathematics knowledge is lower because of their lower mathematics knowledge literacy, and their acceptance of higher mathematics curriculum is lower. These deficiencies lead to the poor foundation of Higher Mathematics Course Teaching in Higher specialized colleges under the background of computer background double high program.

3.2. The relative shortage of higher specialized college mathematics
Under the background of the "double high" program of computer analysis, the teaching process of Higher specialized colleges attaches more importance to the actual teaching, but ignores the theoretical teaching process[5]. In this context, the proportion of higher mathematics courses in the talent professional quality training courses of higher specialized colleges is small, which leads to serious shortage of course hours, and not most of the class hours are arranged in several courses as shown in Figure 2 below.

![Figure 2. The main curriculum arrangement of higher specialized colleges](image)

In addition, due to the policy requirements, the proportion of class hours of other theoretical courses, for instance English is unchanged, the teaching of higher mathematics course is further compressed, which seriously affects the improvement of students' mathematical literacy in Vocational Colleges under the background of computer analysis double high program. As an important guarantee course to improve students' mathematical thinking and information literacy, the reduction of higher mathematics class hours has seriously reduced the implementation effect and quality of the double high program.

3.3. The teaching methods of higher mathematics are relatively backward
The advent of the era of computer Internet has laid a solid technical support and foundation for the innovation of higher mathematics teaching and the reform of teaching methods in higher specialized colleges[6]. However, the teaching methods of many higher specialized colleges are still relatively backward. First of all, at the level of teaching methods, the indoctrination teaching method is still used, which leads to the further loss of students' enthusiasm for higher mathematics learning. Secondly, at the level of teaching means, it is not enough to use computer information tech and other means to carry out higher mathematics teaching with students as the main body, which cannot effectively cultivate the students' independent ability to analyze and solve mathematical deficiencies. In addition, higher mathematics teaching based on computer tech can effectively improve teaching flexibility, enhance students’ learning interaction and stimulate innovation potential, but it has not been effectively popularized.

4. Teaching Strategies of Higher Mathematics in Higher specialized colleges Under the Background of Computer Analysis Double High School Program

4.1. Application of computer education tech in higher mathematics teaching process
Based on the penetration of current computer tech in higher mathematics teaching, first of all, in the training level of mathematical thinking, students can make use of computer-aided teaching means, for
instance various computer-based software and hardware resources, so that students can fully discover and understand the beauty of mathematics, and understand the mathematical principles in the learning process. Secondly, with the help of computer in mathematical image processing, 3D model explanation and other aspects of convenience and advantages, so that students have a more intuitive understanding of higher mathematics curriculum theory. In addition, with the help of computer tech, students can understand the principles behind complex and abstract higher mathematics knowledge in a graphical way, so as to strengthen students' interest and effect in learning.

4.2. Strengthening the internal and external innovation of talent training mode reform
First of all, higher mathematics teaching should be carried out based on the characteristics of higher professorship education, and the selection of mathematics textbooks should keep pace with the times. Secondly, the application-oriented teaching should be based on the specialty characteristics of higher mathematics. In addition, under the background of double high school program, higher specialized colleges should also actively cultivate students' learning ability, stimulate students' interest in learning mathematics, and focus on cultivating students' mathematical abstract thinking ability and self-learning ability. Finally, at the internal level of the school, we can improve the quality of higher mathematics teachers by opening up their thinking and expanding their knowledge.

5. Conclusion
In summary, with the deepening of the depth and intensity of the application of computer tech in various industries and fields, higher professorship education, which focuses on cultivating applied and actual talents, is required to further strengthen the cultivation of talents' professional quality and promote the reform and improvement of the teaching quality of courses represented by higher mathematics. Therefore, higher specialized colleges should actively apply computer education tech in higher education courses, strengthen the internal and external innovation of talent training mode reform in higher specialized colleges, and cultivate more professional talents for the society and various industries.

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