

Promotion and Influence of Micro-class on Higher Vocational Mathematics Education

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Abstract: As time goes on, micro-class has occupied an important position in higher vocational mathematics education, which is changing the traditional teaching mode. With the advent of big data era featured with multi-network integration, micro-class has gradually become one of the most favourite learning modes for students in the new era. This paper explores the preparation work, teaching design of micro-class as well as its advantages and disadvantages in higher vocational mathematics education thus to expound that micro-class is the product of the times, and applying micro-class reasonably will become necessary for teachers in higher vocational colleges.

1. Introduction

Higher vocational education is a very important component in school education, and traditional school education faces challenge of information explosion, therefore, traditional teaching mode has also faces the challenge of the times. “Micro-class” is extremely popular in various colleges and education systems, for example, the colleges hold “micro-class competitions”, education systems involve municipal-level “micro-class competitions” and even more websites provide corresponding “micro-class” resources for downloading.

2. Meaning of micro-class

Micro-class, namely mini-class, centers on students and takes video as main carrier, which records teaching video about one certain kind of knowledge or education link. It adopts the presentation modes of animation, picture and PPT. Such kind of teaching mode originating from the West can help teachers to make hierarchical explanations for students in the teaching process, while the students can understand teaching contents hierarchically and finally master learnt knowledge more proficiently, deeply and firmly.

3. Current situation of higher vocational mathematics

Firstly, under the political and economic environments after the golden period of occupational education in previous years, the Ministry of Education unified second-tier university and third-tier university to call them as second-tier university, accordingly, high school boom was stirred again and the middle school students passing minimum score all wanted to gain quick success, therefore, in order to guarantee new student enrollment, the sources of higher vocational college students have become more and more disunited while the students have become weaker in ability than previous students. As a result, the teachers should firstly consider more thoughtfully thus to satisfy the demands of all students in the teaching process; secondly, higher vocational education mode is changing with the development of information explosion, and information-based elements have been gradually added into traditional teaching mode. Meanwhile, mobile phone popularization can make students learn knowledge to make up for their insufficiencies through network. Finally, the higher vocational college students pay more attention to professional skills, therefore, they will neglect mastery of knowledge. Specific situations are described as follows for better expounding the current situation of higher vocational mathematics.

3.1 The colleges pay less attention to mathematics teaching

In higher vocational colleges, professional skill is emphasized most by students. While the colleges pay less attention to non-professional courses. In order to enhance students' skills, the colleges hold various-level skill competitions and professional-ability exams in a big way, while mathematics teaching should give its way. Owing to objective influence, the students have reduced enthusiasm and learning motivation in mathematics learning.

3.2 The students have insufficient ability in mathematics learning

According to above-mentioned, the enrollment pressure in recent years has caused decline in comprehensive quality of higher vocational college students. Especially they have reduced their mathematics learning ability obviously. Quite a number of students tend to go overboard on mathematics, who say that "they will have gone to high school if they have academic performance in mathematics". It can be seen that mathematics teaching faces a disaster in higher vocational colleges.

3.3 The colleges are not advanced in mathematics teaching technology

Owing to poor learning ability of students, the teachers should not only complete tight teaching tasks but also should face evaluation of college on their teaching effect. Therefore, more higher vocational mathematics teachers still focus on how to make students pass the "cramming" method of teaching smoothly, while the students certainly fail to understand the real meaning of knowledge and reduce their learning interest, on the contrary, the teachers have more difficulty in teaching.

4. Preparations of "micro-class" in higher vocational mathematics teaching

Micro-class plays a promotion role to classroom teaching of teachers, which is very convenient. But some premises should be prepared in the micro-class teaching process. Firstly, micro-class making takes much time and needs much energy, wherein, teaching resource selection, teaching scheme determination and teaching effect evaluation can not be accomplished in one action. Therefore, the teachers should make full preparation in advance. Secondly, micro-class making consumes much manpower. The making process of micro-class is complicated and can not be completed by relying on one person but should depend on a team. Finally, micro-class needs consumption of network. Micro-class needs support of network platform for smooth implementation. Nowadays, under the background of big data era featured with multiple-network integration of internet, internet of things, mobile network and sensor network, personalized and intelligent education idea is forming, which is the largest power for emergence of micro-class.

5. Location of "micro-class" in mathematics teaching

5.1 Teaching design

The teaching mode of micro-class is same to traditional teaching mode, and contains three aspects of preview before class, classroom learning and after-school review. The teachers must consider these three aspects and combine them together in the teaching process thus to improve mathematics teaching quality really.

5.1.1 Preview before class for preparation of micro-class

Preparation before class is very important for micro-class teaching. The teachers should determine the teaching emphases, teaching difficulties and learning difficulties of students for micro-class preparation under the premise of specifying specific teaching contents of micro-class. Besides, the teachers should make students preview the teaching contents, communicate with them about learning difficulties through information exchange platform (WeChat or QQ generally) thus to facilitate them to solve the problems in micro-class teaching process.

5.1.2 Classroom learning for preparation of micro-class

In classroom learning of micro-class, the teachers must grasp the micro-class emphases and difficulties for explanation, combine with the students' questions to conduct exploration and research. The advantage of micro-class teaching lies in saving time, which can make students have more time in thinking and understanding. The learning initiative has been transformed to the students, and accordingly, their learning enthusiasm will further increase. In the higher vocational mathematics teaching process, some concepts are Abstract, which can be presented through the form of micro-class for students to understand better.

5.1.3 After-class review preparation for micro-class

Micro-class lasts for more than 15 minutes and contains much knowledge, therefore, the students have certain difficulty in complete mastery. Accordingly, after-class review is necessary. The teachers can assign tasks to students after class and upload micro-class materials as well as learning emphases and difficulties to information exchange platform thus to make students have opportunity to learn further.

5.2 Advantages and disadvantages of micro-class

Micro-class can make students yield twice the result with half the effort in preview before class, make interaction in classroom to deepen mastery in knowledge and review related knowledge after class.

Advantage I: micro-class can improve classroom learning efficiency and make up for the problem of insufficient class hours in mathematics learning. The micro-class lasts for 5-10 minutes, and the students can obtain better learning effect. In the process of explaining some Abstract concepts such as complex number and plane concepts, the teachers can introduce story and literary quotation to increase learning interest of students. And owing to short time of micro-class, the students can concentrate better within short time and understand knowledge better. Finally, completed micro-class courseware is also one of the bases for teachers in self-reflection and provides powerful basis for teachers to teach students better and improve teaching efficiency. Advantage II: micro-class can satisfy different demands of different-level students. Different students have different learning ability, wherein, the students with strong learning ability can test whether they have mastered the related knowledge through after-class homework after they watch the micro-class video once; while the students with ordinary learning ability can watch the micro-class video again and again, and even they can pause for research at any time, communicate with teachers timely through network platform and solve their problems. Advantage III: micro-class teaching is more vivid than traditional teaching, and the time is more reasonable. Because micro-class relies on the subject of video materials, accompanied with attractive animations and pictures, it can present knowledge to students more vividly and increase learning interest of students further. Owing to short time of micro-class, students can finish the micro-class video by aid of "fragmented time", and then they can complete learning tasks more effectively, timely and quickly.

Disadvantages: As a supplementary means of traditional teaching, micro-class is very good. Micro-class is good supplementation, inheritance and development of teaching resources, but micro-class teaching can not replace traditional teaching. Traditional classroom teaching is featured with interaction between teachers and students, problem-solving and timely handling of emergencies. While micro-class video is made in advance and exists with certain limitations.

6. Conclusion

As time goes on, it can not denied that micro-class has occupied a very important position in higher vocational mathematics teaching and is changing the traditional teaching mode. However, With the advent of big data era featured with multi-network integration, micro-class has gradually become one of the most favourite learning modes for students in the new era.

References

- [1] Mathematics teaching material compiling team of Jiangsu vocational schools. Mathematics [M]. Nanjing: Jiangsu Education Publishing House, 2011.
- [2] Yan Linjing. Thoughts on application of “micro-class” in higher vocational mathematics education [J]. Chi Zi, 2014(22): 81.
- [3] Pang Guangmei. Application of micro-class in higher vocational mathematics education [J].Journal of Jilin Province Economic Management Cadre College, 2015(4): 98-99.
- [4] Wang Nana. Application of micro-class in higher vocational mathematics education [J].Technology and Economic Guide, 2017(26): 165.