

Research on the Integration of Internet Technology and Mathematics Education Major in Colleges and Universities

Zhang Zongguo^{a,*}, Zhu Haijing

School of Mathematics and Statistics, Qilu University of Technology (Shandong Academy of Sciences),
Jinan, Shandong, 250353, China

^a email: zhznzongguo@126.com

*corresponding author

Keywords: Internet Technology, Universities, Mathematics Education Major, Integration Development

Abstract: This paper briefly expounds the advantages of the integration and development of internet technology and mathematics education major in colleges and universities, analyzes the shortcomings of mathematics education specialty teaching in colleges and universities, and puts forward the integration development strategy of internet technology and mathematics education specialty in order to ensure the effectiveness of talent training by enriching the resources of teaching, arousing interest in learning, innovating teaching methods, improving learning efficiency and cultivating teachers'comprehensive quality.

1. Introduction

With the continuous development of modern technology, the application of Internet technology in teaching activities is becoming more and more common, and the integration of Internet technology and mathematics education major in colleges and universities has received extensive attention [1]. Combining with my own teaching experience, the author puts forward the following thoughts.

2. The Advantages of the Integration of Internet Technology and Mathematics Education Major in Colleges and Universities

2.1. Increase Students'impression of Knowledge Points

The teaching content involved in mathematics education major in colleges and universities is more abstract, which is not conducive to students'understanding. However, the application of Internet technology in practical teaching activities can show abstract mathematical knowledge in the form of pictures, video and audio in front of students, which is convenient for students to understand and digest knowledge, and can make students have a deeper understanding of what they have learned. While the students firmly grasp the teaching content, the students'thinking ability can be effectively exercised, which can lay a good foundation for the later study of mathematics [2].

2.2. Highlight the Main Position of Students

In the previous teaching mode, the main body of the classroom is usually a teacher, and the authority of the teacher is inviolable. In this situation, the students are in the state of passively receiving knowledge, and the participation in the classroom is not high. Internet technology can enrich the means of teaching, the application of this technology in the teaching of mathematics education in colleges and universities, can bring students multiple sensory stimuli, firmly lock the eyes of students, inspire students'thinking, can reflect the subjectivity of students in teaching activities.

2.3. Enrich Teaching Resources and Increase the Density of Teaching Information

The learning content of mathematics education major in colleges and universities is very difficult, and the content involved is rather jumbled. If we continue to use the teaching method of infusion, it will seriously affect the students' learning initiative. Moreover, college education is mostly the pattern of large classes, as shown in figure 1, which leads to a significant decline in students' learning efficiency. Applying Internet technology to the teaching activities of mathematics education major in colleges and universities, teachers can use multimedia to display the teaching content, which can make students know the knowledge points more intuitively, facilitate students' digestion and understanding, and use Internet technology reasonably, which cannot only save teachers' blackboard writing time, but also explain more content to students in limited classroom time, extend classroom learning to class, provide students with enough thinking time, and finally turn knowledge into their own ability.



Figure 1 Schematic diagram of large classroom teaching in colleges and universities

3. The Present Situation of Mathematics Education Major in Colleges and Universities

3.1. Single and Obsolete Teaching

Teaching materials are the carrier of knowledge dissemination, and are the basis for teachers to design teaching activities and students to learn. Analysis of the current teaching materials of mathematics education major in colleges and universities, the content of teaching is not high, practical, and the content of teaching is relatively old, and there is a certain gap with the reality. Mathematics is a practical course, if students only remember the formula to master a certain theoretical knowledge, but do not know to use the knowledge learned to solve practical problems, this is not in line with the goal of education. Not only that, the structure of the textbook is relatively single, interesting is not high, cannot ignite the enthusiasm of students to learn. As we all know, the importance of interest in the learning link, if the students' interest is insufficient, will inevitably affect the students' learning efficiency, if there is no guarantee of learning efficiency, it will have a serious impact on the future study and even employment.

3.2. Unscientific Teaching Methods

At present, the degree of information construction of mathematics education major in colleges and universities is not high. Under the influence of the idea of examination-oriented education, some teachers will adopt the method of spoon-feeding teaching or infusion teaching, pay too much attention to the teaching of theoretical knowledge, and the effect of teaching can be imagined. After the new curriculum reform, some colleges and universities have realized the deficiency of the traditional teaching methods, and have adopted a series of rectification measures, but the teaching reform only stays on the surface, the lack of effective communication between teachers and students, the classroom atmosphere is more boring and dull, on the one hand, it will reduce the students' learning initiative, on the other hand, it will affect the quality of classroom teaching.

3.3. Teachers'comprehensive Quality is not High

Most of the teachers in colleges and universities are of subject origin and have certain theoretical ability in teaching activities, but their understanding of other professional knowledge is relatively limited, it is difficult to combine the knowledge of different specialties together, and the flexibility of classroom teaching is not high, which is not conducive to training students'ability to use mathematics knowledge flexibly. Some teachers are older and have rich teaching experience. In the actual teaching activities, according to the experience of teaching, the ability to operate Internet technology is poor, cannot be skilled in the application of Internet technology, but also lack the awareness of using Internet technology to organize teaching activities, classroom teaching quality improvement space is very large.

4. The Integration of Internet Technology and Mathematics Education Major in Colleges and Universities

4.1. Enrich Teaching Resources and Stimulate Interest in Learning

For the problem of single content and old teaching, teachers should give full play to the application value of physical network technology and constantly enrich the resources of teaching, mainly from the following aspects: first of all, it is necessary to attach the key knowledge involved in the teaching materials to the teaching materials in the form of CD-ROM and electronic publications, expand the media of knowledge, organize students to use multimedia to watch the teaching content, activate the atmosphere of classroom teaching, ignite the enthusiasm of students to participate, and improve the students'independent learning consciousness and ability. Secondly, before the formal class, teachers can study the teaching materials in depth, use the Internet to collect relevant information, and then use multimedia to show the students in class. For example, when a teacher explains this part of the flat point French equation to a student, a teacher can use the Internet to find the more common planes in everyday life, such as the desktop, playground, solar panels, and so on, and then display these images to the students, so that the students can take a preliminary look at the features of the simplest form of the spatial surface of the twin-hu, and then show the students a small video of the opening ceremony of the 2008 Beijing Olympic Games to form a preliminary understanding of the sun dial as a kind of time-keeping instrument in our country. Through such a teaching method, we can see the organic combination of Internet technology and mathematics education in colleges and universities, enrich the content of classroom teaching, help to stimulate students'enthusiasm for learning, and improve the effect of teaching to a certain extent.



Figure 2 Ancient chronometer sundial

4.2. Innovative Teaching Methods to Improve Learning Efficiency

With the continuous development of the new curriculum reform, the situational teaching method has been applied and popularized in mathematics teaching activities. Using Internet technology to create teaching situation, mathematics teachers can reduce the difficulty of students'understanding to a certain extent, which is conducive to attracting students'interest in learning and cultivating students'consciousness of autonomous learning. Therefore, mathematics teachers can focus on the

content of teaching, use Internet technology to actively create different teaching situations, give full play to the value of Internet technology, and achieve the goal of situational teaching. Internet technology can combine video, image, sound and so on to give the original boring and boring knowledge a new life, mathematics teachers can use this technology to create a corresponding teaching situation around the content of teaching, to deepen the impression of students.

Take the normal vector of the plane as an example, the teacher can use the Internet technology to make a more interesting video as a classroom introduction, so as to attract the attention of the students, and the teacher should make the teaching courseware in advance according to the content of the teaching. What is the position relation between the normal vector of the plane and the other vectors in the plane? By increasing the difficulty of intervertebral problems, students can think deeply and ensure the effectiveness of teaching activities. In addition, teachers can make full use of QQ and WeChat to form a group, students can send the problems encountered in the school to the group, seek answers from other students and teachers, can improve the efficiency of learning [3].

4.3. Cultivate Teachers'comprehensive Quality and Improve Teaching Level

Under the background of the new curriculum reform, mathematics teachers should adjust their own teaching ideas in time, integrate the teaching activities with the Internet technology, fully respect the students'subjectivity, give the initiative of the classroom to the students, make them truly become the masters of the classroom, and make the students willing to explore the mathematics knowledge actively. Teachers need to play the role of organization and guidance in teaching activities. Colleges and universities should encourage teachers to participate in skills training activities, let teachers master the latest Internet technology, improve the ability to apply the Internet, and enhance teachers'information literacy. At the same time, colleges and universities can also actively hold seminars or open classes to promote communication and communication between teachers, and share the experience of applied Internet technology teaching, so as to improve the comprehensive quality of teachers and cultivate high-quality talents.



Figure 3 Organization of teacher participation in skills training lectures

5. Conclusion

To sum up, the integration and development of Internet technology and mathematics education major in colleges and universities can deepen students'impression of knowledge points, enrich teaching resources, expand the density of teaching information, and help to improve the effectiveness of teaching. Therefore, colleges and universities can fully refer to the above suggestions, optimize the teaching mode and methods, ensure the quality and efficiency of teaching, and train more talents for the society.

References

- [1] Zeng Xiaolong. An Analysis on the Application of Modern Educational Information Technology in Mathematics Education in Colleges and Universities. Computer Knowledge and Technology, vol. 15, no. 30, pp. 93-94, 2019.
- [2] Zhao Huichen, Jiang Chen, he Xue. reflection and prospect of the application of information

technology in the field of mathematics education in China. China Education Informatization, no. 24, pp. 15-21, 2018.

[3] Li Tongxia. On the Integration of Modern Educational Information Technology and Mathematics Education in Colleges and Universities. Heilongjiang Science, vol. 9, no. 07, pp. 160-161+164, 2018.