

Research on Higher Education Model Innovation Based on Big Data Technology

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Abstract: With the deepening of the reform of higher education, the work of higher education should be further optimized. Teachers should actively introduce new education concepts and teaching methods, so as to better arouse students' interest in learning, strengthen their understanding and application of the knowledge, and improve the education effect. Big data technology, as a popular educational auxiliary means, can greatly enrich the content of higher education classroom teaching, broaden the path of education, and greatly promote the more comprehensive development of students. In view of this, this article will analyze the higher education model based on big data technology and put forward some strategies for your colleges' reference.

Keywords: Big data technology; Major; Education mode; Research

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1. Value of higher education model innovation based on big data technology

1.1. It is conducive to enhancing the appeal of courses

In the process of promoting the cause of higher education, the active introduction of big data technology in the teaching link can greatly enrich the teaching content of higher education and play a significant role in promoting the quality of talent training^[1]. The application of big data teaching resources can not only significantly enhance the attraction and appeal of teaching content, stimulate college students' interest and enthusiasm for professional knowledge, and encourage them to participate in the exploration and learning of professional knowledge more actively and proactively, as well as optimizing and improving the teaching effect. Moreover, with the empowerment of big data technology, higher education classroom teaching will become more interesting and intuitive, helping college students to understand professional knowledge more deeply and vividly, and having an important and far-reaching influence on the cultivation of their learning interest and the improvement of their understanding ability^[2].

1.2. It is conducive to improving the timeliness of teaching

In the process of promoting higher education, it is necessary to ensure the solid implementation of teaching

content, so that college students can cultivate their professional quality and professional ability while comprehensively mastering professional knowledge, to achieve the classroom teaching goal of “instant learning and instant mastery.” In order to achieve this goal, we should make full use of big data resources to optimize the traditional higher education classroom teaching mode, to enhance the timeliness, interaction and science of teaching^[3]. This will help college students more effectively use big data resources, cases and projects to learn professional knowledge and enhance the flexibility and effectiveness of teaching work. This has significant implications for improving the effectiveness of classroom teaching in higher education.

1.3. It is conducive to improving the flexibility of education

From the perspective of professional teaching practice, the traditional professional teaching method often adopts the infusing method, which is easy to produce resistance and other adverse psychological reactions in college students, which not only affects the improvement of higher education classroom teaching effect but also hinders the in-depth development of college students' practical ability. In order to improve this situation, we actively integrate big data technology into professional teaching, which significantly improves the flexibility of higher education classroom teaching^[4]. Through the use of micro-lessons, media videos and other means, we can carry out more diversified and rich content of professional teaching activities. The application of big data technology has not only enhanced the interest, vividness and flexibility of professional teaching activities but also more effectively attracted the attention of college students and stimulated their interest in learning. At the same time, the application of big data technology has also effectively expanded the teaching content and teaching forms, provided college students with a better learning path, made their learning activities more flexible and efficient, and further promoted the quality of higher education.^[5]

2. Analysis of the current situation of higher education

2.1. Solidification of teaching mode

At present, many teachers fail to effectively integrate big data technology into higher education classroom teaching to introduce innovative education models. In the actual teaching process, they tend to focus too much on the teaching of professional theoretical knowledge but ignore the in-depth analysis of actual cases, which to a large extent restricts the improvement of college students' practical knowledge and understanding ability, and poses obstacles to their future career to deal with practical problems. In addition, as far as the teaching content is concerned, the updating of the professional textbooks used by some colleges and universities lags, resulting in a big difference between what college students learn at school and what they need in the workplace, resulting in an embarrassing situation of “learning is useless.”^[6] In the long run, this rigid teaching mode not only makes college students frustrated but also is not conducive to the improvement of their learning efficiency. Therefore, it is urgent to deepen the reform of the current higher education teaching mode to better adapt to the development needs of the new era.

2.2. Enterprise cooperation is not active

To improve the teaching effect of higher education in the era of big data technology, enterprises must be actively guided to deeply participate in education activities. However, in the classroom teaching of higher education, we find that many enterprises have resistance to accepting college students. There are two main reasons for this problem:

- (1) First, some college students' ability to apply professional knowledge is insufficient. Due to the traditional teaching mode, some college students have a limited grasp of the knowledge in the

classroom of higher education, which makes them often feel helpless when facing practical problems after entering the enterprise^[7]. In addition, due to the lack of professional knowledge and application ability, college students need a longer time to adapt to the working environment after entering the enterprise, and it is difficult for them to quickly integrate into the work, which will undoubtedly have a certain impact on the operation efficiency of the enterprise.

- (2) Second, the professional quality of college students needs to be improved. In the new era, college students grow up in an increasingly privileged environment, and they face fewer difficulties and challenges in life, which leads to a lack of resilience when they enter the job market. In the face of problems and difficulties, they often show withdrawal, fear of difficulties and other psychological, which increases the cost of enterprise talent training.

These two factors make it difficult for many enterprises to actively participate in the actual education work, which seriously affects the improvement of higher education classroom teaching effect in the era of big data technology. Therefore, we must face these problems directly and take effective measures to solve them, to promote the joint education of enterprises and colleges and universities and improve the classroom teaching effect of higher education.

2.3. The faculty is relatively weak

At present, many colleges and universities often pay too much attention to the academic background of the candidates when recruiting professional teachers, and the evaluation of their professional practical teaching ability, industry cognition depth and professional quality is relatively insufficient^[8]. In addition, few of the current professional teachers can fully grasp the development trend of the market and they lack of in-depth understanding of the software, equipment and technology commonly used in enterprises, which will undoubtedly increase the difficulty of professional teaching, and then constitute an obstacle to improving the teaching effect. It can be seen that the weakness of teachers has become one of the important factors restricting the improvement of higher education classroom teaching effect in the era of big data technology.

3. Higher education model innovation strategy based on big data technology

3.1. Introduce micro-lessons skillfully to stimulate students' interest

In the context of the rapid development of big data technology, higher education should attach great importance to the introduction of pre-class to lay a solid foundation for the in-depth promotion of education work. High-quality classroom introduction is crucial to quickly guide college students to shift their attention from recess leisure to professional knowledge learning and has a profound impact on the improvement of their learning efficiency. However, in the traditional teaching mode, some teachers tend to ignore the importance of pre-class introduction and only require students to preview the textbook before class to have a general understanding of the theoretical knowledge before teaching, which is difficult to ensure that students are fully focused on the beginning of the course, thus affecting the effect^[9]. Because of this, we can actively explore the use of big data technology to play interesting micro-lesson videos to college students before class, effectively stimulate their curiosity and thirst for knowledge, and lay a solid foundation for the subsequent teaching work. Through the methods of higher education, we can promote the continuous improvement of the quality of higher education and contribute to the training of more outstanding talents.

3.2. Introduce media videos to enrich teaching content

After an in-depth analysis of the professional textbooks, we noticed that the content of the textbooks generally

showed a high degree of abstraction, which increased the difficulty of learning to a certain extent. At the same time, limited by the length of the textbooks, the elaboration of some key points is not detailed, which is not conducive for students to build a complete and systematic professional knowledge system^[10]. In addition, under the traditional teaching mode, teachers have obvious shortcomings in the application of big data technology and the integration of high-quality online education resources, which restricts the improvement of the quality of higher education to some extent.

In order to improve this situation, when promoting the reform of professional teaching, we should actively explore the use of media video resources, select video materials closely related to teaching content, and use multimedia equipment to show students, to improve on the expansion and deepening of professional teaching content. To ensure that students at different levels can get effective help, we should fully consider the differences of students when selecting video resources, and divide students into different levels, so that media video can play a greater auxiliary role in higher education^[11]. By introducing media video resources that meet students' learning needs, can not only enrich the teaching content but also help students build a more perfect and reasonable professional knowledge system, laying a solid foundation for their further in-depth study of professional knowledge. This move is of great significance for improving the quality of higher education and promoting the comprehensive all-round development of students.

3.3. Build platforms for self-study and cultivate the habit of self-study

To effectively improve the effectiveness of professional teaching, we must exert great importance on the cultivation of college students' self-learning ability. Actively guiding college students to form good self-learning habits can effectively encourage them to invest in knowledge preview and review more efficiently, which has a crucial role in deepening their understanding and application of professional knowledge. However, reviewing previous professional teaching work, it is not difficult for us to find that college students often difficult to achieve high efficiency in independent learning^[12]. The main reason lies in the lack of an effective platform for independent learning. In the past, college students often found it difficult to solve the problems encountered the first time when they carried out independent knowledge learning, which not only affected the improvement of their self-study efficiency but also caused a serious blow to their self-study confidence, thus hindering the formation of their good self-study habits.

In the view of this, we should closely combine the actual situation of the university and make full use of big data technology to build a more efficient and reasonable environment for college students to learn by themselves. By building an online self-learning platform, we can help college students solve the problems encountered in the process of self-study more efficiently and timely. When college students encounter difficulties in learning professional knowledge, they can upload the problems to the online self-learning platform and solve the problems together with the strength of classmates and teachers, to ensure the smooth progress of subsequent self-study and further improve the quality and effect of education.

3.4. Carry out reasonable teaching evaluation and improve teaching problems

In order to further improve the effect of higher education model reform based on big data technology, we should not only pay attention to the expansion of teaching content and the optimization of teaching paths, but also carry out innovation and development of teaching evaluation in higher education, so that the mastery level of college students' knowledge can be greatly improved while enhancing the education effect. In the teaching evaluation, to ensure the objectivity, effectiveness and pertinence of the evaluation process, we need to combine the individual differences of college students to carry out hierarchical evaluation. For students with weak basic

knowledge, we should focus on their theoretical basic knowledge to help them lay a solid foundation. For ordinary students, the evaluation should cover the two aspects of professional theory and professional skills, requiring them to master the basic theory at the same time, but also need to master the relevant skills and ensure enough learning time to meet their professional learning needs ^[13]. For students with solid professional foundation and strong professional knowledge reserves, we should not only evaluate their professional theories and operational skills but also put forward higher requirements to encourage them to constantly challenge themselves and improve their professional comprehensive ability. Through the above hierarchical evaluation strategies, we can guide students' learning more effectively and promote their comprehensive all-round development.

3.5. Enrich the content of professional textbooks and improve the professional knowledge system

In order to further improve the effect of higher education model reform based on big data technology, we should exert importance on the expansion of textbook content, to lay a solid foundation for future teaching work and help college students further improve their knowledge system, which will greatly promote their long-term development ^[14]. Through the introduction of appropriate textbook resources, the efficiency of higher education can be greatly improved and further innovation of education can be done. To this end, we can try to combine the characteristics of different college students, choose more suitable teaching auxiliary content for them and then use big data technology to reasonably apply it to textbooks, to understand the in-depth docking of students' needs and textbook content, and provide greater impetus for their future development. When choosing the textbooks integrated into higher education work, we should exert importance on the practical function of professional knowledge contained in them, and integrate more knowledge and skills helpful to the future development of college students into the textbooks, which will greatly promote their future knowledge learning and skill training.

In the course teaching practice, we can use big data technology to inquire about the knowledge and technology related to various industries, to better meet the professional knowledge and learning needs of college students and improve the actual effect of higher education ^[15]. Not only that, for the diversified teaching content, we will also carefully plan and integrate video, pictures, and other multimedia resources, to assist college students to explore new textbooks more efficiently and promote their professional knowledge level to a new level.

4. Summary

To sum up, if we want to improve the innovation level of higher education model based on big data technology, we can introduce micro-lessons to stimulate students' interest, introduce media videos to enrich teaching content, build a self-study platform to cultivate self-study habits, and enrich the content of professional teaching materials, improve the professional knowledge system and other aspects of the analysis, to virtually promote the innovation quality of higher education model based on big data technology to a new height.

Disclosure statement

The authors declare no conflict of interest.

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