Research Article

Research on the Innovation of Teaching Mode of Ideological and Political Theory Courses in Colleges and Universities Driven by VR Technology Based on Deep Learning

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In order to study the innovative teaching mode of ideological and political courses in colleges and universities, we develop the motivation of students’ active learning and enable students to establish good ideological and moral quality and correct outlook on life, values, and society, and the whole teaching process of the course is analyzed. Through the analysis of students’ learning motivation and the correlation between the students’ learning efficiency and teaching mode, this study finally finds that the VR technology-driven teaching mode can promote students to think and explore the red culture. Finally, it is found that the VR technology-driven teaching mode can promote the interaction between teachers and students, students and students, and jointly think and explore the red culture. Through the innovation of the VR technology-driven teaching mode of ideological and political courses in colleges and universities through in-depth learning, students’ enthusiasm for autonomous learning can be greatly improved and their ideological character can be better cultivated. It also has innovative significance and a research value for the development of China’s education field.

1. Introduction

As an important subject of college education, ideological and political course plays an important role in cultivating students’ good moral character and patriotic emotion. With the progress of social science and technology, in order to improve the learning efficiency of students and the quality of talent cultivation, it is necessary to reform and innovate the traditional education model. Yan and Liu build a close cooperation mode between artificial intelligence and education and promote artificial intelligence and college curriculum innovation [1]. Zhao used new media technology to combine network and classroom teaching, which improved students’ autonomy and enthusiasm, and jointly improved the network education system [2]. According to the situation of the mixed teaching mode of ideological and political courses in colleges and universities, it has more reference significance for educational reform and innovation to explore and find the problems and development direction that will appear in the educational reform [3]. Deng pointed out that this course must implement teaching reform and adopt diversified teaching [4]. Huang and Sun promoted the development of a learning resource platform and a new mixed teaching mode with the help of the application experience of the flipped classroom [5]. While analyzing the impact of multicultural education, Zheng formulated a plan for future classroom teaching reform, focusing on classroom education [6]. Chen pointed out that international exchanges have accelerated the reform of China’s education system, brought severe challenges to the education sector and also changed the thinking of students [7]. Xiao and Jiating discussed the setting of virtual practice places in VR technology, which enhanced the sense of experience in reality and expanded the ability level of ideological and political teachers. VR technology can better promote benign interaction between them in the classroom [8]. This study adopts statistical methods for analysis and research, and the classroom teaching model is analyzed and studied. Through innovative research, the
characteristics of the virtual world and reality are combined to form a new model in which virtual practice and field practice complement each other. The adoption of this brand-new teaching mode has a positive effect on students’ active learning motivation to a great extent. It can experience new things and external cultural ideas in a boring learning environment and improve the innovation of ideological and political education in colleges and universities. It is of positive significance to the cultivation of students’ personal ideology and politics and the formation of social values.

2. Disadvantages of the Traditional Ideological and Political Teaching Mode in Colleges and Universities

The traditional classroom teaching of ideological and political education is guided by teachers to impart knowledge, but it ignores the whole process of learning, and students just passively accept it. In the explanation of theoretical knowledge, even if the teachers’ explanation is vivid and full of emotion, it cannot arouse the emotional resonance of students, and there is a lack of communication and interaction between teachers and students. The feelings poured into them are full, and they cannot bring immersive feelings. In the previous classroom teaching process, teachers’ teaching methods are too old, resulting in the classroom learning efficiency is not obvious. Listen to the boring knowledge explanation, resulting in the extremely low participation of students in the classroom. The internal motivation of students gradually wears off, resulting in a lot of weariness of learning. The drawbacks of the old teaching methods of college ideological and political courses have been clearly exposed, which has accelerated the pace of innovation and reform. Therefore, it has attracted great attention in educational circles. At present, classroom teaching is closely combined with digital media, information network technology, and VR technology-driven auxiliary equipment to improve students’ comprehensive quality.

3. Innovation Analysis of the VR Technology-Driven Teaching Mode

Ideological and political education in colleges and universities is not only the unilateral transmission of theoretical knowledge but also the guidance of emotion, attitude, and values. In ideological and political education in colleges and universities, the teaching of theoretical knowledge can be realized through teachers’ classroom teaching, but the emotional experience is difficult to reflect on. How to attract students into classroom teaching is a new requirement for the innovation of the classroom teaching mode under the new situation. To change this situation, we should pay attention to the learning atmosphere of the ideological and political class and guide the innovation of the ideological and political teaching mode in colleges and universities. Lixuhui promoted the innovative teaching mode in colleges and universities to cultivate innovative talents required by the new era. With the emergence and application of the big data era and virtual reality technology, the new education mode can promote the development of education [9]. VR technology injects fresh blood and vitality into theoretical knowledge. Driven by in-depth learning, it effectively promotes the innovative application of the teaching mode of ideological and political courses. In teaching, VR technology is used to realize immersive teaching, build a richer and more vivid teaching space, a relaxed and pleasant learning atmosphere, and effectively experience the knowledge ocean under the 360° perspective environment; Through VR technology to achieve cross space and time distance, you can visually watch the history, culture, living environment, and ideological movement of various regions and countries, so that classroom education is not limited to education and auditorium and increase learning initiative. Instead of adopting a single one-way knowledge inculcation mode, the generation of learning interest is closely related to teachers’ teaching methods. Understand the students’ thoughts and trends in class participation and discussion and accurately grasp the ideological trends of college students. The teaching reform should take corresponding coordinated reform on the traditional teaching plan, task, content, and method. First of all, we should change the students’ cognition, enhance their political consciousness and enhance their sense of historical mission.

4. The Necessity of VR Technology Teaching

4.1. Necessity of Ideological and Political Teaching Reform and Innovation in Colleges and Universities. In the field of education, with the assistance of VR technology-driven means of in-depth learning, it can effectively improve the shortcomings such as lack of vividness, immersion, and interaction. After innovation, students can get a real experience in vision, hearing, and feeling. The new mode can further accelerate the new progress in the innovation of the teaching mode of ideological and political courses in colleges and universities. With the assistance of VR technology, it can bring a virtual interactive world with realistic and multiple sensory experiences in the teaching of ideological and political courses. With the progress of the development of science and technology, the teaching mode has opened the mode of online plus offline hybrid, which can not only provide distance teaching but also have higher teaching efficiency [10]. To innovate the ideological and political teaching mode in colleges and universities, we must first change our thinking to fully face the importance of ideological and political education. The top priority is to restore the dominant position of students. In the process of interactive learning, it will greatly promote the improvement of students’ innovative spirit and practical ability. Lan put forward the reform measures and ideas of mechanical experiment teaching based on 5G and VR technology. Create a virtual and real VR mechanical experiment teaching platform, and a new teaching mode coordinated between virtual teaching and on-site practical education is formed. The innovation of this research can bring reference to this research [11]. Tang introduced 5G and VR technologies to build a high-quality and intelligent ideological and political education platform, optimized classroom teaching content,
enhanced students’ new experience of active learning and aroused students’ interest through reforming teaching methods [12]. Zhang discussed the current situation of VR technology and education integration and provided new ideas for the education path from the research hotspots of teaching strategy, in-depth learning, new learning environment, and teaching resource development [13]. Huang has gradually realized the comprehensive reform of classroom teaching in colleges and universities through the implantation of VR technology, played the greatest role of VR technology and thus promoted the efficient development of classroom ideological education [14]. The combination of classroom and virtual classroom, thinking from theory and practice, the reform promotes the integration and utilization of educational resources and promotes the rapid development of educational reform, which is also conducive to mobilizing students’ learning enthusiasm. It has brought new changes to the teaching concept, operating mechanism, and personnel training. In this ideological and political education reform, using VR technology to drive the school education into an intelligent education era, students’ learning is no longer limited to the classroom with narrow space. Through VR props to achieve cross-space and time constraints, we can create a more vivid teaching process and space, and realize the visualization and virtualization of history, scientific research, and physical objects. It has accelerated the development mode of ideological and political education in China and has cross-era significance for the development of education in China.

4.2. Statistical Methods. This research needs to use intelligent and high-speed deep learning function formula, as shown in

\[ y = \sum_{i=1}^{n} [A \cdot \sin(Bx_i + C) + D], \tag{1} \]

Among them, \( i \) equals to the pointer variable in the above function formula; \( n \) is the node function of the upper neural network in the above function formula; where \( A, B, C, \) and \( D \) are regression variables.

In the research of reform and the innovation mode in this study, the differences between different modes and the application effects of VR technology-driven teaching mode are analyzed and compared. In this study, the neural network node function in function formula (1) is applied, and then the results are normalized and analyzed.

5. Simulation Verification

5.1. Analysis of Teachers’ Cognitive Teaching under Different Teaching Modes. In the future teaching reform, we need to recognize the goals and methods of the reform. The innovation and reform of teaching is to establish students’ correct values and ideological awareness. The teaching mode of actively improving students’ motivation is the innovative mode we pursue. Only in a clear understanding can we have a better understanding of the future development of students. In cognitive teaching, students are in a period of high desire for knowledge. Teachers should strengthen the memory training of students, effectively improve the learning and memory strategies of college students, attention strategies, and thinking strategies. Now, in teaching innovation, teachers compare and analyze the three cognitive strategies through the original classroom teaching model and the new model driven by VR technology. According to the analysis data, Table 1 is obtained:

Table 1 shows the analysis and comparison data of teachers in cognitive teaching under the two different teaching modes in the above table. In the original teaching, teachers did not change students’ cognition, which is lower than the VR technology-driven teaching mode in students’ learning and memory strategies, attention strategies, and thinking strategies. The integration of VR technology improves students’ interest in active learning, focuses on attention and increases memory in a virtual environment. It is better to think and study the new teaching model that has more attraction to students and effectively promotes students’ interest and motivation in learning. It has a better positive significance for students’ learning, growth, and progress.

In order to more intuitively reflect the analysis and comparison results of three strategies under two different teaching modes in teachers’ cognitive teaching, the data in Table 1 are visualized, and Figure 1 is obtained.

As shown in Figure 1, three strategies of teachers under two different teaching modes are analyzed. The VR technology-driven mode is superior to the three strategies under the traditional teaching mode. It can better obtain professional knowledge in multiple directions, promote the visual development of the course and give better play to the students’ subjective ability.

5.2. Analysis of the Whole Teaching Process under Different Teaching Modes. Teachers’ teaching methods are too old. Most of them are teachers’ theoretical knowledge that is preached from beginning to end on the podium. They do not pay attention to students’ interaction, and students have no right to speak and express. In this case, the students do not listen at all, and as a result, the truancy rate of this subject is higher than that of other subjects. In the process of imparting knowledge, teachers should choose educational methods that students can accept and are interested in and integrate them into the whole learning process of students. With the deepening of educational reform, the whole teaching process is now divided into four parts: pre class preview, classroom inquiry learning, classroom detection and evaluation, and classroom induction and summary. The whole teaching process of this course is studied from two different teaching modes. According to the analysis data, Table 2 is obtained.

Table 2 shows the analysis results of the whole teaching process under the two different teaching modes in the above table. VR technology-driven teaching mode has significantly enhanced the attractiveness of students. In course exploration, classroom testing, and evaluation, students recognize their dominant position in the classroom induction and summary. The learning in the classroom is combined with the timely
Table 1: Analysis of teachers’ cognitive teaching under two teaching modes.

<table>
<thead>
<tr>
<th>Grouping</th>
<th>Memory strategy</th>
<th>Attention strategy</th>
<th>Thinking strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional teaching mode</td>
<td>57.28</td>
<td>60.12</td>
<td>56.04</td>
</tr>
<tr>
<td>VR technology-driven teaching mode</td>
<td>75.68</td>
<td>82.14</td>
<td>80.56</td>
</tr>
</tbody>
</table>

Figure 1: Teachers’ visualization in cognitive teaching under two teaching modes.

Table 2: Analysis of course teaching process under two teaching modes.

<table>
<thead>
<tr>
<th>Grouping</th>
<th>Preview before class</th>
<th>Classroom inquiry learning</th>
<th>Classroom testing and evaluation</th>
<th>Classroom summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional teaching mode</td>
<td>61.52</td>
<td>63.26</td>
<td>62.59</td>
<td>60.54</td>
</tr>
<tr>
<td>VR technology-driven teaching mode</td>
<td>84.78</td>
<td>83.56</td>
<td>83.26</td>
<td>85.28</td>
</tr>
</tbody>
</table>

Figure 2: Visualization of teaching process results of ideological and political course under two teaching modes.
induction and summary after the classroom, which deepens the impression and improves the learning efficiency.

More intuitively analyze the results of the whole teaching process under the two teaching modes, visualize the data in Table 2 to get Figure 2.

As shown in Figure 2, the analysis results of the four parts of the classroom process under the two teaching modes are shown. The VR technology-driven teaching mode has mobilized students’ enthusiasm in all aspects, and the classroom atmosphere is good. This shows that this innovative teaching mode has advantages and sensitivity.

5.3. Analysis of Students’ Learning Motivation for Ideological and Political Courses under Different Teaching Modes. At present, science and technology have been closely related to higher education. Students and teachers are no longer satisfied with simply communicating in words but gradually want some real dynamic images, three-dimensional visual images, and a strong learning atmosphere. VR technology changes future teaching methods. Facing the shortcomings of ideological and political communication in colleges and universities, colleges and universities start to strengthen the education of this course, enrich the contents of VR technology teaching materials, students explore the deep integration of theoretical knowledge and informatization in new technologies and improve the intrinsic motivation of learning. Analyze students’ learning motivation from two different teaching modes. According to the analysis data, Table 3 is obtained.

Table 3 shows the analysis of students’ classroom learning motivation under different teaching modes in the above table. According to the statistical results, in the VR technology-driven teaching mode, students’ tool motivation, achievement motivation, and cultural integration motivation have been greatly improved. The two groups of data $t < 10.000$, $P < 0.05$, have statistical significance.

More intuitively reflect the analysis results of students’ learning motivation for ideological and political courses under the two teaching modes, the data in Table 3 are visualized, and Figure 3 is obtained.

As shown in Figure 3, the analysis results of students’ learning motivation under different modes are shown. The VR technology-driven model can better innovate education and teaching. Let students learn consciously, better understand the red culture, and better understand the tool motivation, achievement motivation, and cultural integration motivation in the field of red culture education. It has a good positive impact on the formation of students’ ideology and politics, arouses students’ interest in learning and desire for communication, not only has a good grasp of learning knowledge but also has an intuitive understanding of intelligent science and technology in the modern field.

5.4. Relevance between Students’ Learning Efficiency and the Teaching Mode under Different Teaching Modes. How to improve students’ learning efficiency is the common concern of every teacher and their parents. There is an inseparable link between learning interest, learning ability, and learning efficiency. This teaching mode can improve students’ learning efficiency, which shows that learning efficiency and teaching mode are interrelated and directly related to each other. Through the VR
A technology-driven teaching mode that makes students interested, students’ interest and learning efficiency can be greatly improved. Active learning and exploring knowledge is the best way to improve students’ academic performance. By observing the comparative analysis of students’ learning efficiency and teaching under different teaching modes, and making charts according to the data results, Table 4 is obtained.

Table 4 shows the correlation analysis results between learning efficiency and the teaching mode under two different teaching modes. Under the VR technology-driven teaching mode, students’ learning efficiency and learning ability have been greatly improved, and students can thoroughly understand and master knowledge.

More intuitively reflect the analysis of the relationship between the two teaching modes and students’ learning efficiency, the data in Table 4 are visualized, and Figure 4 is obtained.

As shown in Figure 4, it shows the correlation between the two teaching modes and students’ learning efficiency. VR technology-driven teaching mode can enrich teachers’ teaching resources. This innovative teaching model can improve the teachers’ educational level. The use of virtual reality technology in the reform of higher education has provided students with new development space and deepened their understanding of knowledge.

6. Summary

In this study, the ideological and political course is analyzed and studied by integrating the intelligent deep learning algorithm and VR technology. Under different teaching modes, the analysis of teachers’ cognitive teaching, the analysis of the teaching process of this course, the analysis of students’ learning motivation, and the correlation between learning efficiency and the teaching mode are studied. Through comparison and data analysis, the VR technology-driven teaching mode is obtained to promote the sustainable development of teachers, it enriches teaching resources, helps to improve students’ ideological and moral character, and is of great significance to cultivating new youth of the times. In this reform and innovation, it has changed students’ original learning methods, targeted to explore the content and realized the importance of college students’ basic literacy and value concepts. This is conducive to strengthening students’ beliefs and enhancing their sense of social responsibility. It can promote the cultivation of contemporary college students’ values, social views, and world views, improve their personal quality and cultural level and promote their growth into excellent talents in line with the new era. At the same time, VR technology driven by in-depth learning has more practical significance for ideological and political teaching innovation and provides more research value for future educational innovation.
Data Availability

Data are available from the corresponding author upon request.

Conflicts of Interest

The author declares that there are no conflicts of interest.

References


