

Retraction

Retracted: Significance and Possibility of VR Technology Embedded in the Teaching of Ideological and Political Theory Course in Colleges and Universities

Ningbin Zhang; Xiuqin Chen; Han Yin

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Significance and Possibility of Vr Technology Embedded in the Teaching of Ideological and Political Theory Course in Colleges and Universities

NINGBIN ZHANG¹, XIUQIN CHEN², AND HAN YIN³ 

¹School of Economics and Management, Xi'an University, Xi'an 710065, China

²Academy of Fine Arts, Shandong University of Arts, Jinan 250014, China

³Centre for Marxist Education, Wenhua University, Wuhan 430074, China


Corresponding author: Han Yin (yinhanyh@163.com)

ABSTRACT The main function of Ideological and political theory course in Colleges and universities is to carry out ideological and political education and moral education to help students establish a good world outlook, outlook on life and values. The main purpose of this paper is to combine VR technology with ideological and political theory course in Colleges and universities. The data of this experiment is from our school to select economics class 1, economics class 2, financial management class 1, and financial management class 2. The average score of Ideological and political theory course in the final examination of last semester of the four classes is close to and close to each other, and 50 people are selected as samples. They were randomly divided into two groups: VR teaching group (economics class 1: A1, financial management class 1: B1) and general teaching group (economics class 2: A2, financial management class 2: B2). VR teaching group lasted for one month, VR ideological and political theory class classroom teaching, ordinary teaching group or traditional teaching. One month later, the four groups of students were tested for ideological and political theory. Before and after the experiment, group A1 and group B1 were investigated: the learning attitude and classroom state of Ideological and political theory course. The experimental results show that: after VR classroom learning, the proportion of A1 and B2 groups who like to think about political theory class increased by 8.2% and 8.14%. The proportion of A1 and B1 aversion to ideological and political theory courses decreased to 1.2% and 3.54%. After VR classroom teaching, the average score of Ideological and political theory course in A1 and B1 groups was 13.81 and 9.68 points higher than that of A2 and B2 groups, and the scores were increased by 19.7% and 13.5%. VR classroom teaching can stimulate students' interest in learning; promote the understanding of knowledge, as well as the establishment of emotional attitude and values.

INDEX TERMS VR technology, ideological and political theory course, colleges and universities, significance and possibility.

I. INTRODUCTION

Today's society has entered the Internet era, with the rapid development of industry, the birth of VR panorama and the vigorous development of technological innovation. As an important aspect of Marxist theory research and construction project, ideological and political theory course, as the main position and main channel of Ideological and political education of contemporary college students, its role is

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increasingly prominent. In order to improve its operation efficiency, enhance students' enthusiasm and identity in learning theory, this paper discusses the virtual classroom teaching and virtual extracurricular teaching of Ideological and political theory course. Virtual video teaching is a kind of special entertainment software based on video and using computer technology. It can make teaching "entertainment". It can enrich video data (including famous and excellent teaching videos, famous columns, news, etc.), text and picture records. In the teaching process, educators should, according to the needs of teaching objects, pass the Digital processing of video

clips and other ways to meet the needs of teachers for video clips.

Wolfgang K developed a highly interactive arthroscopic medical training system through computer graphics and virtual reality (VR) technology. Two main problems are discussed: 3D reconstruction process and 3D interaction. The objective of the reconstruction process is to obtain the real representation of the knee joint from MRI sequences suitable for computer simulation [1], [2]. In addition, the 3D simulation system must be provided for the real interactive operation of arthroscopy. Bastug e emphasizes the importance of virtual reality technology as a disruptive use case for 5g (and above). It takes advantage of the latest developments in storage / memory, fog / edge computing, computer vision, artificial intelligence, etc. In particular, this paper describes the main requirements of wireless connected virtual reality, then selects some key enabling technologies, and then introduces the research approaches and potential major challenges. In addition, we review three virtual reality case studies and provide numerical results for different storage, computing and network configurations. Finally, it reveals the limitations of the existing network, and puts forward more theoretical and innovative reasons to provide virtual reality pioneer for the public [3]. Riva g explores the possibility of a virtual reality (VR) - based psychology to significantly change the body image, attitude and behavior of patients with obesity and related diseases. The design used was a clinical intervention study, which was conducted five times every two weeks, based on virtual reality. The sample consisted of 57 obese, bedridden and EDNOS women seeking treatment in the weight loss room of the Italian Nutrition Institute in verbania, Italy. At baseline and after treatment, all kinds of psychometric tests related to body image (body satisfaction scale, body image avoidance questionnaire, figure rating scale, contour map score scale) were conducted. In all samples, subjects improved their overall physical satisfaction after treatment [4]. Aghajan Z m measured hippocampal activity in rodents that fixed their bodies in exploring two-dimensional virtual reality (VR). Compared with RW, the spatial selectivity of random foraging and target orientation tasks in VR was significantly reduced. On the contrary, we found that the selectivity to the distance traveled was small but obvious. Although the spatial selectivity of VR is impaired, most of the spikes in RW and VR appear in 2 s long hippocampal motifs, which have similar structures, including phase precession in the motif field. In the virtual reality task with fixed trajectory, the selectivity of space and travel distance is significantly enhanced [5].

Vergara D presents a new and complex virtual three-dimensional environment, and takes it as a serious game to show the operation process of universal testing machine in an interactive way. This 3d-vl inspires students to learn the mechanical properties of materials. In the experimental class, students not only require the combination of real laboratory and virtual laboratory, but also require the design of 3D virtual environment. It can be seen that the use

of 3D interactive virtual reality system is very encouraging, so it has great attraction for teaching [6]. The aim of the ramlogan R study was to determine whether the virtual spinal model could improve the understanding of neural axis anatomy by ultrasound. After obtaining the approval of the ethics committee and the written consent of the participants, 14 anesthesia trainees without spinal ultrasound imaging experience were included in the study. The structural validity of the self-learning knowledge of the virtual spine simulation module was evaluated by pretest/posttest design. There are 20 multiple-choice questions in two tests (A and b), which are randomly used in the pre-test or post-test to explain the possible difference in difficulty between the two tests [7]. Taking the typical Tibetan clothing as an example, Chen g puts forward a virtual reality interactive teaching mode for clothing design teaching. This mode enables fashion students to have a deeper understanding of the structural characteristics of traditional clothing through virtual clothing, and also provides a self-learning platform and opportunity for other non-fashion students. Virtual reality interactive teaching can fully display the characteristics of Chinese traditional clothing and increase the knowledge of clothing which is not easy to obtain from the collections outside the museum. These processes include the use of 2D garment CAD software to display the traditional clothing structure, the use of virtual reality technology to create 3D garment models, and the use of unity 3D game development platform for interaction [8]. ROM á n-ib á EZ Vicente developed an immersion virtual reality (VR) teaching simulator for engineering students. With this system, students will understand the impact of their own designed trajectories on several different robotic arms and cellular environments, without having to buy all the robotic arms and without damaging the battery pack. The simulation checks for collisions of elements in the scene and reminds students when collisions occur. This immersive robot is designed to help students better understand reality by integrating it with virtual reality [9]. In addition, even if there is a real robot arm for students to use, through this virtual reality, all students have the opportunity to manage and learn their own version of the robot arm without waiting time [10].

This paper mainly introduces the composition, characteristics, application of VR technology and the connotation and problems of Ideological and political theory course in Colleges and universities, and the advantages of combining VR technology with ideological and political theory course. One month later, four groups of examinations were conducted to compare and analyze the scores of Ideological and political theory courses in Colleges and universities. After VR classroom teaching, the average scores of Ideological and political theory courses in groups A1 and B1 were 13.81 and 9.68 higher than those in groups A2 and B2, and the scores were increased by 19.7% and 13.5%. The experimental results show that: VR classroom teaching can stimulate students' interest in learning, promote the understanding of knowledge, as well as the establishment of emotional attitude and values.

II. THE COMBINATION OF VR TECHNOLOGY AND THEORETICAL COURSES OF IDEOLOGICAL AND POLITICAL COURSES IN COLLEGES AND UNIVERSITIES

A. VR TECHNOLOGY

At present, the communication between people and computers is boring, passive and rigid and only computer language is used for interaction [11-13]. Virtual reality refers to the use of computer technology to establish a realistic computer virtual environment. Through the functions of vision, hearing and touch, users can perceive and operate various virtual objects in the virtual environment, so as to interact with the virtual environment and produce the feeling of immersive [14]. In the scene of human-computer interaction, virtual reality technology provides a new mode for space performance, and also brings new innovation [15]. At the same time, it can help us to explore the laws of movement and change in the macro and micro world, as well as the movement and change laws of things that are not easy to observe directly due to various reasons [16].

1) VR SYSTEM STRUCTURE

VR system can be divided into two categories: hardware equipment of virtual reality and virtual reality of computer. Because computer virtual reality is mainly through software to achieve semi immersive virtual environment, it can also be called software virtual reality [17]. Of course, hardware virtual reality cannot do without software control part [18].

For VR implementation technology, most of the understanding of VR technology is limited to VR helmets and VR gloves. In fact, virtual reality should include all technologies related to nature, simulation and real experience. Its fundamental goal is to realize real experience and human-computer interaction on the basis of natural skills. A system that can achieve or partially realize such a system is called virtual reality system. VR system is based on software, with mouse and keyboard as input device, and monitor and headset as output device. Therefore, VR system can only realize semi immersive VR system. Mature VR system mostly depends on virtual reality hardware equipment, and virtual reality research based on ordinary computer peripherals is still very weak. At present, VR systems in the market are basically realized by computers, and the price of VR hardware equipment is often unbearable for ordinary people [19], [20].

2) CHARACTERISTICS OF VR TECHNOLOGY

VR is considered to be the highest level application of multimedia. It combines computer technology, visual physiology, and visual psychology, simulation technology, sensing technology, speech recognition, artificial intelligence and other high-tech technical means, which is the combination of new high-tech technologies in modern society [21]–[23]. The three-dimensional dynamic world constructed by VR technology has strong fidelity and real-time performance, which has the following characteristics:

1) Conceivability: in the three-dimensional dynamic space, users can obtain any virtual information in the space

according to their own perception and judgment. They can give full play to their subjective initiative and seek the knowledge and information they need to cope with and solve problems perfectly [24].

2) Immersion: the real world simulated by VR technology has a high sense of reality and verisimilitude. Users can devote themselves to the virtual environment by wearing 3D glasses and other tools, so as to achieve the effect of difficult to distinguish the true from the false, giving users a sense of on-the-spot experience. In the three-dimensional virtual environment constructed by VR technology, everything looks like real existence. What you see, hear, touch, smell and even taste is real, just like the feeling in the real world [25], [26].

3) Real time interactivity: interactivity refers to that the user is in a virtual environment, and the objects they touch and grasp are tactile and can feel the weight, and the objects can move with the movement of human hands, which has strong operability [27].

3) THE CORE OF VR TECHNOLOGY

VR technology involves the application of technology in many fields, including dynamic modeling, 3D image formation and information sensing, etc

1) Three dimensional dynamic modeling technology. The construction of three-dimensional virtual environment, first of all, is to establish a dynamic model [28]. Through the data scanning of the actual object and environment, the three-dimensional data is obtained, and then a virtual environment model is established with the obtained three-dimensional data. The 3D data can be obtained by CAD technology, but due to the abstractness of the environment, the laser scanning confocal microscope is used to obtain the 3D data of the environment by non-contact means to complete the dynamic modeling of vision [29].

2) Three dimensional image generation technology. After the dynamic modeling of the virtual environment is completed, the virtual generation of the real object image of the built model is immediately needed. It is required that the 3D image refresh rate of virtual world should not be less than 15 frames / second, and it is better to be higher than 30 frames / second. On the premise of not reducing the quality and content of the image, it is the key point of 3D image generation technology to maximize the refresh rate [30], [31].

3) Sensor and 3D display technology [32]. The reason why 3D virtual world can bring users high sense of reality and presence lies in its powerful real-time interaction, which is realized by sensor technology and 3D display technology. As long as users make signal indication through data glove or 3D glasses, 3D virtual space will get information by its sensing system, so as to make corresponding response quickly.

4) System integration technology. Because 3D virtual world contains a lot of data information and models, in order to improve the spatial response speed, the system integration technology is very important. The integration technology solves the synchronization of spatial data information, model

calibration, data conversion, data management, identification and composition.

4) APPLICATION OF VR TECHNOLOGY

With the rapid development of science and technology, VR technology is more and more common around us, and its application field is more and more extensive.

The common application fields of VR technology include:

1) Entertainment fields: traditional TV series and games are just users' unilateral watching and enjoying or experiencing at one end of TV or computer. After VR technology is applied to video games, users can enjoy the three-dimensional intuitive experience of virtual reality. In other words, users can participate in the dynamic scene of video games independently, although it is virtual, but users can really experience the feeling of the scene, which is the sense of presence and reality of the 3D virtual reality world.

2) Culture and art field: VR technology can dynamically present static art forms, such as painting and sculpture. By scanning the 3D data, the dynamic model can be established to complete the dynamic presentation. In this way, the channels and forms for people to understand art are broadened, and people can learn better.

3) Production field: the most significant application of VR technology in the production field is the virtual development of automobile. Users can simulate the feeling of operating the car on the real road by wearing 3D glasses in the car. In addition, in the process of designing and producing the car, designers can analyze the shortcomings of the car in a timely and efficient way, and make improvement, so as to effectively save the production cost of the car.

4) Medical field: VR technology is mainly applied in anatomy, pathology teaching and surgical training. In teaching, virtual human body model is established by VR technology. With the help of feeling gloves and tracking ball, students can easily understand the structure of human organs, which is much more convenient than relying on textbooks, and students can understand faster. At the same time, students can also use the virtual laboratory for autopsy and surgical training. Surgeons can also use VR technology to repeatedly simulate the operation on the computer monitor before the operation to complete the design of complex surgery and find the best surgical scheme, which can greatly reduce the injury caused by surgery to patients.

5) Military space field: VR technology can help the simulation training of military spaceflight. Whether it is the simulation of military exercises or space station environment, VR technology can be achieved.

6) Education field: VR technology can help students to learn at any time. Combining with the parallel of VR multiple sensory channels, it can effectively improve the immersion, immediacy and authenticity of the experience obtained in the use process, which can effectively stimulate students' learning enthusiasm. VR technology can well assist the traditional teaching practice and ensure the normal operation of teaching practice.

B. IDEOLOGICAL AND POLITICAL THEORY COURSE IN COLLEGES AND UNIVERSITIES

The main function of Ideological and political theory course in Colleges and universities is to carry out ideological and political education and moral education, to help students establish a good world outlook, outlook on life and values, and to improve students' ability to understand and analyze Marxist theory and solve problems, which is reflected in the three major functions of knowledge, values education and ability training.

1) CONNOTATION OF IDEOLOGICAL AND POLITICAL THEORY COURSE

The ideological and political theory course takes Marxist theory, especially the latest theoretical achievements of Marxism Sinicization as the main teaching content, and at the same time convey socialist ideas and core values to students. All these need to be widely and widely spread, taught and taught through direct teaching and teaching forms. The course of Ideological and political theory is supported by the discipline of Marxist theory. It adopts and applies multi-disciplinary knowledge to carry out knowledge education and value education.

2) PROBLEMS IN IDEOLOGICAL AND POLITICAL THEORY COURSE

The comprehensive quality of Ideological and Political Theory Teachers in Colleges and universities plays an important role in the teaching of Ideological and political theory. Most students are not interested in the teaching content of teachers, passively accept the knowledge of Ideological and political theory courses, and many students are not willing to take ideological and political theory courses, or even skip classes. In addition, college students are faced with learning pressure, economic pressure, interpersonal pressure, while ideological and political theory teachers ignore the guidance of college students. In addition, when explaining hedonism, egoism and other wrong outlook on life, teachers only give a vague explanation of the negative aspects of Pragmatism College students, without dialectical analysis, students are difficult to accept and identify with.

C. VR TECHNOLOGY COMBINED WITH IDEOLOGICAL AND POLITICAL THEORY TEACHING

Virtual teaching of Ideological and political theory course in Colleges and Universities Based on VR technology involves many factors, such as information technology, theoretical knowledge, social practice, etc. In this regard, the education department gives strong support, because it can give guidance at the macro level, and realize resource sharing at the micro level. In virtual teaching, teachers and students can see or hear the unique opinions of scholars or experts on different issues and events, expand the knowledge object and improve the practical efficiency. Therefore, the combination of VR technology and ideological and political theory course in Colleges and universities embodies the

characteristics of three aspects: virtuality, innovation and interactivity.

1) STIMULATE STUDENTS' INTEREST IN LEARNING

Virtual teaching can provide students with colorful display and immersive experience, and stimulate students' interest in Ideological and political theory course. Through a novel way, students can feel the specific situation and abstract things described in the ideological and political theory course, so that students can get relaxed and happy at the same time. Virtual reality technology can let students put themselves in the situation to solve problems, but also let students feel the role in the textbook.

2) STRENGTHEN KNOWLEDGE LEARNING AND CULTIVATE STUDENTS' THINKING ABILITY

College students in the ideological and political theory class will have some more abstract scenes, virtual reality simulation can let students feel the scene break the time and space constraints, to explore, communicate, explore things that have never experienced. Students in the virtual scene learning will show great enthusiasm for learning, there will be many different questions. And then they learn to use their imagination to make the problem concrete. It is of great help to promote students' understanding of knowledge, as well as the establishment of emotional attitude and values.

3) ENRICH TEACHING RESOURCES

The teaching resources in virtual teaching are not original resources such as books, props and tapes, but the resources such as text content and virtual experiment. They are the combination of tangible and intangible, limited and infinite. The virtualization of teaching resources can solve the increasingly prominent problems of enrollment scale, shortage of school resources and difficulty in updating examination equipment.

III. EXPERIMENTAL DESIGN

A. EXPERIMENTAL DATA COLLECTION

In order to study the learning effect of VR teaching, this paper selects 50 students from economics class 1, economics class 2, financial management class 1 and financial management class 2 from our school. The average scores of economics class 1 and economics class 2, financial management class 1 and financial management class 2 in the final examination of last semester were close and high scores were close. They were randomly divided into two groups: VR teaching group (economics class 1, financial management class 1) and general teaching group (economics class 2, financial management class 2). For the convenience of identification, economics class 1 and economics class 2 are labeled as groups A1 and A2. Financial management class 1 and financial management class 2 were marked as group B1 and B2.

Before and after the experiment, group A1 and group B1 were investigated: the learning attitude and classroom state of Ideological and political theory course. For one month, group A1 and B1 studied the course content of Ideological and political theory in VR teaching, while group

A2 and B2 were still traditional teaching. One month later, the four groups were tested for ideological and political theory.

B. CONSTRUCTION OF VIRTUAL TEACHING

Before modeling, we need to know that virtual reality teaching is composed of virtual teaching environment, teachers, and students, teaching content and other elements. Like traditional teaching, virtual classroom has both teachers and students. First of all, we should make clear the modeling method that should be used. It is a key step in the realization of virtual reality technology. In order to make the classroom environment of virtual teaching approach reality, we must choose the most appropriate modeling method and modeling tool to realize it. In this modeling experiment, we use 3dsmax9 modeling tool, according to the different objects in the classroom and the teaching video recorded by teachers in advance, mainly using the following two modeling methods:

1) GEOMETRIC MODELING

The geometric modeling method is to directly use 3dsmax9 geometric polygon to model, describe the shape and appearance of the classroom, such as windows, podium, etc., and construct its basic model through simple deformation editing operation. For stage, table, chair and so on, 3dsmax9 can be directly used for geometric modeling. For irregular solids, one or more geometric entities are used for hybrid modeling. While the shape of these polygons is not determined by the surface texture of the solid, then the color of the solid is determined by the texture of the solid. The specific steps are as follows:

1) In the 3dsmax9 build panel, select the geometry item to create the box model, and then enter the modify panel to convert the model to an editable polygon.

2) Adjust and modify points, lines, and surfaces to increase the cross-section of the polygon, and, if necessary, mesh smooth the polygon model in the modify panel to continuously adjust the model, creating a basic model.

3) The basic data and photos of the classroom environment are used to create materials and textures, texture mapping and texture baking are performed, and the model construction is completed:

$$\text{Geometric mean: } G = \sqrt{x_1 \times x_2 \times \dots \times x_n} = \sqrt[n]{\prod_{i=1}^n x_i} \quad (1)$$

$$\text{Harmonic mean: } H = \frac{m_1 + m_2 + \dots + m_n}{\frac{m_1}{x_1} + \frac{m_2}{x_2} + \dots + \frac{m_n}{x_n}} = \frac{\sum_{i=1}^n m_i}{\sum_{i=1}^n \frac{m_i}{x_i}} \quad (2)$$

2) IMAGE MODELING

Image modeling is the use of image and video data to reconstruct the three-dimensional model, which is suitable for students' body structure modeling. The specific operation steps are as follows:

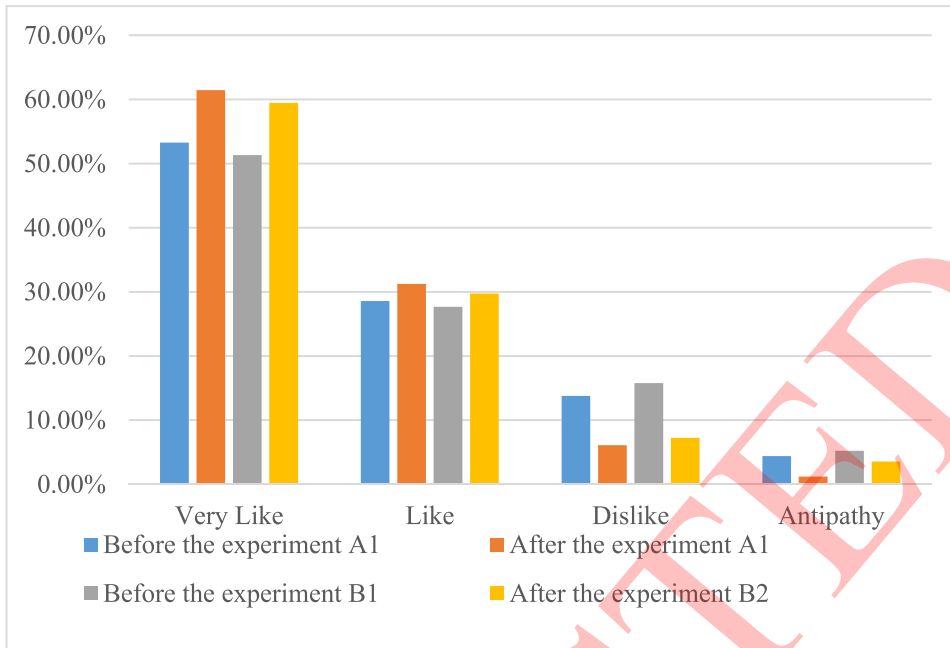


FIGURE 1. A comparative study on the attitudes of group A1 and group B1 in Ideological and political theory course before and after the experiment.

1) Image modeling is to use the teaching video recorded by teachers to model and make good virtual reality teaching courseware.

2) Digital camera or laser scanning microscope is used to shoot and scan near or far away. When shooting with digital camera, students are required to take pictures in a crisscross way in front, back, left and right directions, and the height of shooting in different directions should be the same; when using laser scanning microscope, it only needs to aim at the object and carry out omni-directional scanning.

3) Start 3dmax9 material editor, import the texture of the prepared human body image sample, align the front, back, left and right textures, then create a cross-section, define and edit the material, and then the student body model is built.

IV. ANALYSIS OF EXPERIMENTAL RESULTS

Before and after the experiment, two classes of Ideological and political theory course were investigated: the learning attitude and learning state of Ideological and political theory course. The data obtained after the experiment were compared with the data before the experiment.

A. ATTITUDE COMPARISON OF IDEOLOGICAL AND POLITICAL THEORY COURSE

Before and after the experiment, the results of group A1 and group B1 attitude survey on Ideological and political theory courses are shown in Figure 1 and Figure 2:

It can be seen from Figure 1 that before the experiment, the proportion of A1 and B1 who like ideological and political theory course very much is 53.26% and 51.32% respectively; after the experiment, the proportion of A1 and B1 who like ideological and political theory course very much

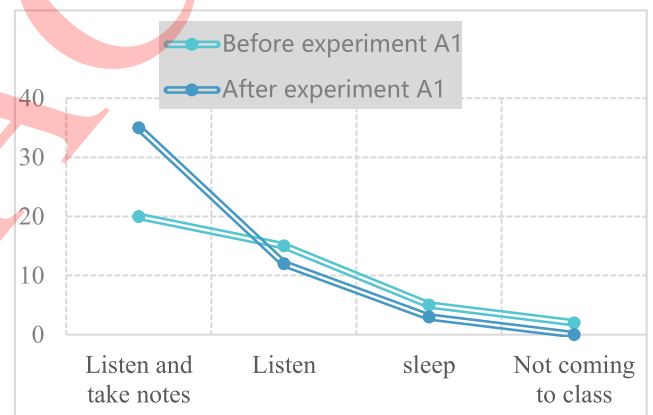


FIGURE 2. A comparative study on the attitudes of group A1 before and after the experiment.

is 61.46% and 59.46%. After VR teaching and learning, the proportion of group A1 and B2 who like to think about political theory class increased by 8.2% and 8.14%. Before the experiment, the proportion of A1 and B1 aversion to ideological and political theory courses were 4.40% and 5.22%, respectively. After the experiment, the proportion of A1 and B1 disgusting ideological and political theory courses decreased to 1.2% and 3.54%. After VR teaching and learning, the proportion of A1 and B2 groups' anti ideological and political theory courses decreased by 3.2% and 1.68%. VR teaching can stimulate students' interest in Ideological and political theory course more than ordinary teaching.

B. COMPARISON OF LEARNING STATUS

According to the survey results before the experiment, there are three main reasons why students choose to take

ideological and political courses: 41% of the students want to improve their ideological and political theory quality, 33.8% of the students have to take the course because the ideological and political theory course is a compulsory course, and 13.05% of the students are attracted by the teaching charm of teachers. From the teacher’s point of view, the two main reasons why students come to class are: 71.88% of the students come to class because of compulsory courses, and 42.19% of the students come to class because they really want to improve their political quality theory, which is similar to the survey results of students. Generally speaking, the main motivation of students in class is the binding force of compulsory courses and the improvement of ideological quality, among which the former accounts for a higher proportion. In other words, a large number of students are forced by the system rather than voluntarily to attend classes. Once they are changed to elective courses, the number of students will be greatly reduced. Before and after the experiment, A1, B1 groups of Ideological and political theory course attitude teaching state chart 1:

From figures 1 and 2, it can be seen that before the experiment, the number of A1 and B1 listening carefully and taking notes in the ideological and political theory class were 20 and 19 respectively. After the experiment, the number of people who listened carefully and took notes in the ideological and political theory class was 35 and 32 respectively. After VR teaching and learning, the number of students in group A1 and B2 who listened carefully and took notes increased by 15 and 12 respectively. Before the experiment, the number of A1 and B1 sleeping in the ideological and political theory class were 5 and 5 respectively. After VR teaching, the number of A1 and B1 sleeping in the ideological and political theory class was 3 and 4 respectively. After VR teaching and learning, the proportion of students in group A1 and B2 was reduced by two and one. VR teaching can promote students’ learning of Ideological and political theory course more than ordinary teaching.

C. SCORE COMPARISON

The scores of Ideological and political theory courses of the four groups are shown in Table 1:

It can be seen from Figure 3 that after one month of VR teaching and learning ideological and political theory courses, A1 and B1 scores in the ideological and political theory course examination scores are far better than A2 and B2 of ordinary teaching and learning. The average score of Ideological and political theory course in A1 and B1 groups was 13.81 and 9.68 points higher than that of A2 and B2 groups, and the scores were increased by 19.7% and 13.5%. Group A1 and B1 scored higher than 90 in Ideological and political theory course by 3 and 2 people, especially in the 80-89 score section of Ideological and political theory course, group A1 and B1 were 5 and 3 higher than group A2 and B2.

The experimental results show that: after a month of VR Teaching Ideological and political theory course, VR teaching can stimulate students’ interest in Ideological

TABLE 1. A comparative study on the attitudes of group A1 and B1 before and after the experiment.

Class Classroom status	Before experiment A1	After experiment A1	Before experiment B1	After experiment B1
Listen carefully and take notes	20	35	19	32
Listen, don't take notes	15	12	13	13
No lectures and no notes	5	3	5	4
Not coming to class	2	0	3	1

TABLE 2. Scores of ideological and political theory courses in four classes.

Number of people Group	Above 90 points	80-89 points	70-79 points	60-69 points	Less than 60 points	Average
A1	10	20	15	5	0	83.56
A2	6	15	16	9	4	69.75
B1	9	21	16	3	1	81.32
B2	7	18	13	7	5	71.68

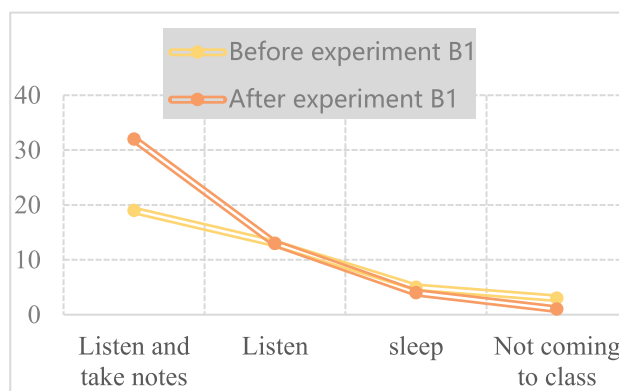


FIGURE 3. A comparative study on the attitudes of group A1 and B1 before and after the experiment.

and political theory course more than ordinary teaching. The ideological and political course in Colleges and universities is an important course to help students set up correct values and standardize behavior norms, which is of great significance to the growth and development of students. VR teaching can

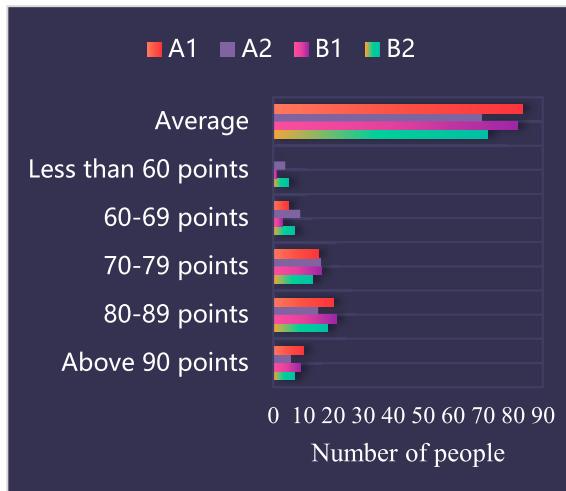


FIGURE 4. Scores of Ideological and political theory courses in four classes.

make students from the past passive learning of Ideological and political courses into active learning of Ideological and political courses in Colleges and universities, so as to help students establish correct values and standardize behavior norms, which is of great significance to the growth and development of students.

V. CONCLUSION

In modern society, the way of education is relatively simple, the traditional teaching mode gradually exposed defects. The ideological and political course in Colleges and universities is an important course to help students set up correct values and standardize behavior norms, which is of great significance to the growth and development of students. Especially at present, the invasion of diversified ideas and the independent personality of college students have brought unprecedented challenges to ideological and political education. With the wide application of VR technology, virtual reality teaching as a new teaching mode will be recognized by more and more people. With the continuous development of digital media technology in recent years, teaching methods will also be diversified, from a single blackboard, classroom teaching mode to the current virtual reality teaching. In short, in the near future, the virtual reality system and related software will break the existing teaching mode. With the update of hardware equipment, the application prospect of virtual reality technology will become possible and feasible.

This paper mainly introduces the composition, characteristics, application of VR technology and the connotation and problems of Ideological and political theory course in Colleges and universities, and the advantages of combining VR technology with ideological and political theory course. One month later, four groups of examinations were conducted to compare and analyze the scores of Ideological and political theory courses in Colleges and universities. Before and after the experiment, A1 and B1 groups were

investigated: learning attitude and classroom state of Ideological and political theory course. After VR classroom learning, the proportion of group A1 and B2 who liked to think about political theory increased by 8.2% and 8.14%. The proportion of A1 and B1 aversion to ideological and political theory courses decreased to 1.2% and 3.54%. After VR classroom learning, the number of students in group A1 and B2 who listened carefully and took notes in Ideological and political theory class increased by 15 and 12 respectively. After VR classroom teaching, the average score of Ideological and political theory course in A1 and B1 groups was 13.81 and 9.68 points higher than that of A2 and B2 groups, and the scores were increased by 19.7% and 13.5%. The experimental results show that: VR classroom teaching can stimulate students' interest in learning, promote the understanding of knowledge, as well as the establishment of emotional attitude and values.

The VR classroom proposed in this paper may have some limitations due to the lack of experience and sample size. The next research content: let VR technology present classroom teaching more real, smoother.

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NINGBIN ZHANG was born in Yinchuan, Ningxia, China, in 1978. She received the master's degree from Xidian University, China. She currently works with the School of Economics and Management, Xi'an University. Her research interests include virtual reality and interaction, digital media technology, and e-commerce media.



XIUQIN CHEN was born in Yuncheng, Shandong, China, in 1975. She received the master's degree from Shandong Normal University, China. She currently works with the Academy of Fine Arts, Shandong University of Arts. Her research interest includes ideological and political education in colleges and universities.



HAN YIN was born in Fengcheng, Jiangxi, China, in 1980. She received the master's degree from the Huazhong University of Science and Technology, China. She currently works with Wenhua University. Her research interests include Marxist theory, ideological and political education, and rule of law education.