Application of Virtual Reality Technology in College Students' Mental Health Education

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Abstract: Virtual reality technology is a computer simulation technology that allows people to create and experience the virtual reality world. It simulates the real world through a computer, allowing users to feel the situation. This paper analyzes the application of virtual reality technology in the psychological health education of college students through the concept and characteristics of virtual reality technology and the mental health of college students.

1. Introduction
In recent years, the development of virtual reality technology has been becoming better in the field of computers. The phenomenon of mental health problems caused by college students due to various factors, so that in the society the voice of improving college students' psychological health education is also growing. People began to explore ways of organic integration of virtual reality technology and mental health education for college students. By applying virtual reality technology to college students' mental health education work, they can both achieve the enthusiasm of college students for learning mental health education and improve the psychological health of college students and achieve the expected effect of education.

2. Concept and Characteristics of Virtual Reality Technology

2.1 Immersive Nature of The User
The immersive nature of the user is also referred to as immersion, the most significant feature of virtual reality technology. The immersive characteristic refers to the degree of authenticity that a user feels when entering a virtual reality environment through certain advanced instruments such as a sensor. The most ideal virtual reality environment should make it difficult for the user to distinguish between the feelings of the real world and the virtual world. When the user enters into the virtual reality environment through advanced instruments such as sensors, what he or she sees and hears is very realistic, and even some advanced virtual reality technologies have realized olfactory and tactile sensory simulations. Users will have difficulty in distinguishing between real and virtual situations, creating everything in the virtual environment as real illusions.

2.2 Multiple Perceptual Features
The most ideal virtual reality technology should achieve all the perceptions that human beings feel when they are truly present. That is to say, they should have the perception of the visual sense organs that are first possessed by computer technology, and must have the sensation of hearing, touch, and smell on the basis of human existence. The perception can even develop a variety of perceptions such as the perception of the effects of force, motion perception and taste those are common in real life.
2.3 Autonomy
Many people ignore autonomy when exploring the features of virtual reality. Self-occupancy refers to the degree of movement of objects within the virtual reality environment. Items in the virtual space will follow the laws of the physical world in the real world while moving. In this example, the free-falling movement of objects within the virtual space will follow the natural laws of the real world, or they will obey the rules set by the designer in advance to perform free fall motion. This autonomy helps to increase the fidelity of the virtual reality world.

2.4 Interactive Features
The characteristics of interaction are somewhat similar to the perception of force in perceptual awareness, but the interaction actually refers to the degree of manipulability of the items in the virtual environment space when the user is in the virtual reality space and the resulting self-recognition. For example, when animals are moved around in a virtual reality environment, they feel when moving things is like the weight of the items in real life is felt on their hands.

2.5 Conceptual
Conceptuality generally refers to the manner in which the user obtains information. After entering the virtual reality environment, the user can obtain the information through the environment and the characters’ behavior. Then the abstract thinking is used to derive, guess, and imagine the continuation of the virtual reality environment. That is to say, the user can imagine the scene in the virtual reality space that has not existed in the objective reality environment. It is beneficial to enhance the user's imagination and the level of logical thinking. This is the so-called conception.

3. Status Quo of Mental Health Education for College Students: Reasons for Using Virtual Reality Technology
With the development of modern society and the continuous improvement of the living conditions of the times, the competition in the society is getting bigger and bigger, especially the employment competition. The students who first felt the pressure of employment can no longer be as comfortable as the previous middle school, high school study period. They have some mental health problems in learning, friendship, love, family, and employment. Many news began to report news that college students committed suicide because they could not stand the pressure. Currently, there are 385 students from 3 universities in a certain area of Tianjin as a research group, including 212 boys and 180 girls. From these three universities, 307 freshmen, 231 sophomores and 358 juniors are selected from the three universities as a control group. The results are shown in Table 1.

Table 1 Probability of Psychological Problems in Different Grades of Students of Different Grades

| gender | grade  | Number of people surveyed | Number of people with psychological problems | The probability of psychological problem |
|--------|--------|---------------------------|---------------------------------------------|----------------------------------------|
| male   | Freshman | 173                       | 10                                          | 5.78                                   |
|        | Sophomore | 176                       | 12                                          | 6.81                                   |
|        | Junior    | 196                       | 29                                          | 14.79                                  |
|        | Senior    | 212                       | 36                                          | 16.98                                  |
| Female | Freshman  | 134                       | 16                                          | 11.94                                  |
|        | Sophomore | 155                       | 20                                          | 12.90                                  |
|        | Junior    | 162                       | 59                                          | 36.41                                  |
|        | Senior    | 180                       | 67                                          | 37.22                                  |
Regardless of the number of boys or girls increases as the grade, the number of psychological problems shows a rising state, and psychological problems arise. The probability of the question is gradually increasing, but the ability of girls to withstand stress is obviously inferior to that of boys. This shows that when college students face examinations and employment, they need external forces to adjust and help them to avoid the extreme behavior of choosing suicide because they are isolated and helpless. Therefore, it is imperative to improve the mental health education curriculum for college students. However, the current mental health education in universities is not well implemented. Many colleges only provide 1-2 weeks mental health courses in a perfunctory manner. Even some colleges may find some teachers who are not able to understand the students’ mental health to save college resources and conduct lessons. In the final analysis, the current problems in the mental health education of college students include insufficient implementation of the curriculum, low professionalism of the teachers, high degree of dullness in the courses, and college students’ lack of attention to this course.

4. Application of Virtual Reality Technology in College Students’ Mental Health Education

4.1. Application of Virtual Reality Technology in Psychotherapy

4.1.1. Empty Chair Technology Therapy
Although the traditional empty chair technology has a significant role in the treatment of the heart, the skills of the psychotherapist and the imagination of the parties are very high. Air chair treatment is generally applied to the handling of interpersonal disputes and to the party's inner emotions. It mainly refers to the empty chair as a person or thing that has a connection with the user, where the user conducts psychotherapy and the user establishes a communication link here, thereby gradually changing the user's negative psychological emotions. In such a situation, if the psychotherapist's skill is insufficient, the person cannot bring his own character into the treatment. In addition, if the parties’ imagination is not rich enough, they cannot be cured subconsciously.

The virtual chair technology after joining virtual reality technology can easily virtualize people or time that has a significant connection with the user and replace the role of the user in the role switching role. In this way, even if the user's imagination is not good, the therapeutic effect can be achieved. Virtual technology provides users with a realistic social context, allowing users to fully express their inner emotions, and to a certain extent stimulate the initiative and enthusiasm of college students. Give full play to the role of mental health education work, broaden the means and methods of mental health education, and promote mental health work to better carry on.

4.1.2. Exposure Therapy
Exposed therapy is often used to treat special groups with psychological anxiety and psychological phobia. Exposure therapy exposes the patient’s fear and anxiety to themselves, and experiences the most fearful and anxious situations through numerous face-to-face experiences. To some extent, it can reduce the patient's anxiety and fear. However, there are many problems with this traditional exposure therapy. Take the college students who have psychological problems as an example. Many college students are reluctant to face fear again. This psychological phenomenon refuses to expose the implementation of therapeutics. University students who are reluctant to confront their fears are also vulnerable to re-traumatization and increase the symptoms of psychological anxiety and psychological fear.

Combining virtual reality technology with exposure therapy can artificially create an anxiety environment where the user can control the degree of trauma. Users can recover in this virtual environment instead of just experiencing fear and repeatedly experiencing anxiety and fear. Virtual reality technology not only duplicates the moments of anxiety and fear of the user, but also can effectively control the time schedule under the setting. Under the help of advanced equipment such as sensors, college students can improve their emotional control ability and also increase anxiety.
patience of fear reduces the negative self-evaluation.

4.2. Enhance College Students’ Psychological Skills Training

4.2.1. Training for Emotional Perception

Many college students are prone to nervous breakdown when they encounter difficulties. They are due to their own emotional sensitivity. Good emotions can keep students in good mood and maintain their physical and mental health. However, negative emotions can be detrimental to the mental health of college students. Life has an unnecessary negative impact. All of the negative emotions are due to the students’ lack of ability to regulate their emotions, and the basis for adjusting emotions is the ability to sense emotions. Emotional perception ability can be perfected through continuous training. With advanced virtual reality technology, a realistic situation can be simulated on the user's emotional experience, allowing the user to experience various appropriate emotional stimuli in the virtual environment. The emotional experience in the environment allows users to carefully perceive the changes and influences brought by different emotions in order to achieve the effect of training emotional perception. In addition, the virtual reality technology can also create a virtual character, and the user can perform objective emotion perception training by observing the behavioral actions, facial expressions, and mood fluctuations of the virtual character.

4.2.2. Communication and Communication Skills Training

If college students are most concerned about the ability of interpersonal communication, such as clubs and participating in class activities, the ability of interpersonal communication is most directly manifested in the ability of college students to communicate and communicate. Many college students are unable to communicate with other university students, interviewers, and internships because they are not comfortable with the new environment. Therefore, the ability to train college students in their mental health education can reduce the probability of psychological stress and psychological problems in college students due to problems in interpersonal communication. In the communication and communication ability training, if the virtual reality technology can construct a virtual daily life situation, let the college students in a virtual environment to conduct virtual dialogue training for themselves. The college students that use this training program can set in advance the dialogue situations that need to be contacted, and then conduct dialogue drill for the characters of the virtual reality, carefully observe how the virtual characters respond after hearing the dialogue, and how to recover, and here they are. On the basis of continuous improvement in their dialogue language and facial expressions in order to achieve the expected effect of training.

The application of virtual reality technology to the training called Liu Dongtong has another form of expression: inputting the existing dialogue mode into a virtual character, and then observing the appearance of the virtual character during communication to find out its own communication defect. This kind of virtual reality communication and communication skill training allows college students to be in a virtual and protected environment during training, reduce the anxiety of college students due to communication defects, and improve the effectiveness of training.

4.2.3. Relieve Stress Training

Stress is mainly the most important factor for college students to produce mental health problems. Among them are academic pressure, interpersonal pressure, family pressure, economic pressure, and the most significant employment pressure. Psychological medicine and psychotherapy mainly use relaxation therapy to treat college students with mental health problems. There are many ways to express this relaxation therapy, including the most common methods of abdominal breathing relaxation and progressive relaxation training, the music relaxation method.

The combination of virtual reality technology and stress relief training can effectively enhance the expected effect of stress relief. With virtual reality technology, the most relaxed abstract environment in the user's mind can be turned into a specific situation in front of the user, that is, through virtual
reality technology, the more abstract two-dimensional image can be converted into the sound heard by
the user's ear. The three-dimensional, omni-directional virtual reality space composed of the visually
received scene and the temperature felt on the skin. In addition, users can rely on advanced sensors
such as sensors to virtually restore their own characteristics, virtual out the appropriate pressure
environment to relieve stress training.

The combination of virtual reality technology and stress-relieving stress training allows users to
repeatedly relieve stress, improve college students' ability to resist stress, and adapt to stress. After
actual drills, virtual reality technology applied to relieve stress training can effectively reduce the
pressure caused by college students speaking lectures and speech contests.

4.2.4. Understanding Emotional Experience Training for Mental Health Issues
In the course of mental health education, in order to let the students intuitively understand the cases of
psychological problems, most teachers will choose modern multimedia courseware to display pictures
and videos for students to experience emotions. However, such two-dimensional pictures and videos
do not make students profound. For emotional experience, adding virtual reality technology allows
students to understand the psychological issues more realistically and deeply. For example, in critical
life teaching about life safety, virtual reality technology can be used to simulate a realistic accident
scene, allowing students to experience critical moments that cannot be experienced in real life, giving
students more intuitive and profound experience opportunities.

5. Conclusion
According to the concept and characteristics of virtual reality technology and the reform needs of
modern college students' mental health education, the development prospects of virtual reality
technology in college students' psychological health education are very promising. Virtual reality
technology can give college students a virtual virtual social environment, promote college students'
initiative and enthusiasm for learning mental health education, reduce the psychological health
problems of college students to a certain extent, and effectively improve the expected effect of college
students' mental health education courses to promote the development of college students'
psychological health education.

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