

psychological disorder. The four subscales of P, E, N and L respectively represent the four parts of the EPQ questionnaire, namely, psychosis, introversion, nervousness and concealment or lying. The results showed that the scores of E subscale in the psychological intervention group were significantly higher than those in the teaching routine group ( $P < 0.05$ ), while the scores of P, N and L subscale were significantly lower than those in the teaching routine group ( $P < 0.05$ ).

**Table 1.** Comparison of EPQ scores between the two groups after intervention

Project	Psychological intervention group	Teaching routine group	<i>t</i>	<i>P</i>
P (Psychosis)	4.52±2.56	5.87±2.94	-7.582	<0.05
E (Inward and outward)	13.48±3.78	9.74±4.53	8.316	<0.05
N (Neurotic)	9.13±4.92	11.37±4.15	-6.105	<0.05
L (Cover up or lie)	11.34±3.73	12.35±3.67	-3.122	<0.05

At the same time, the statistics and collection of relevant data on the negative emotional problems of the subjects during the experiment were carried out, and the scoring data were quantified from low to high with a score of 1-5 in the five-point system. The results are shown in Table 2. The experimental results show that the negative emotion of the psychological intervention group has been alleviated to a large extent in five dimensions, and its score has decreased from 3-4 points before the experiment to 1-2 points after the experiment. The effect of emotional relief is significantly better than that of the conventional teaching group.

**Table 2.** Improvement of negative emotions of the subjects

Negative emotions	Psychological intervention group		Teaching routine group	
	Before	After	Before	After
Conflict				
Anxious	3.20±1.13	1.23±1.07	3.21±1.11	3.17±1.02
Depressed	4.18±0.07	2.01±0.05	4.19±0.10	3.22±0.14
Uneasy	3.65±1.26	1.39±1.25	3.55±1.23	3.52±1.20
Fear	3.22±1.14	1.55±1.12	3.23±1.16	3.18±1.14
Negative emotions	3.77±0.39	1.08±0.32	3.75±0.28	3.62±0.29

**Conclusions:** To give full play to the intervention of psychology-related theories on students' psychological conditions in the original physical education, to grasp the etiology and degree of performance of their psychological disorders, to enrich classroom organization by adopting cooperative teaching forms, to enhance classroom teaching effects, to attract and divert students' anxious attention, and to help them improve their cognitive processes, emotional processes and will processes. The results of the experiment show that the teaching programmed designed by the PE teachers who have learnt the psychological theory can effectively alleviate the degree of students' psychological barriers and improve their recognition and self-confidence.

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## RESEARCH ON THE INFLUENCE OF VIRTUAL REALITY LEARNING ENVIRONMENT ON LEARNING ENGAGEMENT

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**Background:** After the COVID-19 epidemic, the learning style of students has changed greatly, and online learning and mixed learning have become popular. Therefore, a series of learning problems have arisen, such as weak learning motivation, less interaction, poor learning effect, and there are difficulties in carrying out experimental learning. As a new technology, virtual reality technology can create a virtual learning environment for students and facilitate them to carry out online learning, especially experimental learning. However, compared with other learning environments, the study on the impact of virtual reality learning environment on learning engagement is not deep. The main purpose of this study is to explore students' learning engagement and influencing factors in the virtual learning environment, and to provide

guidance and suggestions for the future virtual reality learning environment. This study defines learning engagement as cognitive engagement and affective engagement, and measures students' learning engagement by constructing a measuring scale.

**Subjects and methods:** The research team has developed a desktop virtual reality learning environment for learners to use on the computer by using unity 3D. Learners can control the model through the mouse, roam in the environment, and interact with the environment. This experiment is conducted in two classes of Grade 8 in junior high school. The time is one class hour. One class uses the traditional online learning environment and the other class uses the virtual reality learning environment. The learning content of this lesson is "motion and force" in junior high school physics, which mainly explores the influence of resistance on the motion of objects, Newton's first law, inertia and other contents.

**Study design:** The present study includes five stages. Stage 1: experimental preparation stage. Three things are completed: completing the pre-test knowledge questions, providing informed consent, and getting familiar with the corresponding software. The pre-test mainly tests the students' mastery of sports and force knowledge points, including 5 multiple-choice questions and 1 short answer question. If they have a good master of sports and force knowledge, they are considered to be familiar with the learning content and they are not included in this experiment. Stage 2: conduct formal learning. The online learning group mainly conducts learning through traditional methods such as teachers' explanation and watching videos. The virtual reality environment group uses the developed virtual reality software for learning in addition to the teacher's explanation and video viewing. This phase lasts about 35 minutes. Stage 3: fill in the questionnaire. This stage mainly measures students' cognitive and affective engagement. Stage 4: complete the post test questions. The test questions mainly include 10 multiple-choice questions and 2 short answer questions, which are provided by two physics teachers with more than 10 years of teaching experience to ensure the reliability and validity of the test questions. Stage 5: conduct in-depth interviews with some students.

**Methods of statistical analysis:** In this study, SPSS23.0 was used as a statistical analysis tool. The independent sample *t*-test was used to investigate whether there were significant differences in cognitive engagement, affective engagement and post test scores in different learning environment. Pearson correlation analysis was used to analyze whether there was a correlation between learning engagement and learning achievement. NVivo software was also used to process interviews and conduct quantitative research.

**Results:** 1) Independent sample *t*-test showed that there were significant differences in learning engagement between the two environments. The affective engagement ( $M = 24.12, SD = 4.42$ ) of learners in virtual reality learning environment is higher than that of learners in online environment ( $M = 20.84, SD = 4.08$ ), and the cognitive engagement ( $M = 33.78, SD = 5.40$ ) of learners in virtual reality learning environment is higher than that of learners in online environment ( $M = 29.66, SD = 4.28$ ) (Table 1). Through interviews, it is found that students generally believe that the virtual reality learning environment is novel and allows interactive operation, and students are willing to spend more time on learning. 2) The independent sample *t*-test showed that there were significant differences in learning achievement between the two environments. The test scores of learners in virtual reality learning environment ( $M = 24.38, SD = 4.21$ ) were higher than those in online learning environment ( $M = 21.50, SD = 3.58$ ). The author believes that the virtual reality environment provides a real learning situation and stimulates students' deep learning, so it has better learning effect. 3) This study also examines the relationship between learning engagement and learning achievement in the virtual reality learning environment. The results show that there is a significant moderate correlation between learners' learning achievement and cognitive and affective engagement in the desktop virtual reality learning environment. It can be seen that students' academic performance will be affected by cognitive engagement and affective engagement.

**Table 1.** Independent sample *t* test on students' affective engagement, cognitive engagement, and post test scores between the Virtual Reality (VR) learning environment and Online Learning (OL) environment

Dimension	Group	<i>N</i>	Mean	<i>SD</i>	<i>t</i>
Affective engagement	VR	25	24.12	4.42	2.826*
	OL	28	20.84	4.08	-
Cognitive engagement	VR	25	33.78	5.40	3.121*
	OL	28	29.66	4.28	-
Post test scores	VR	25	24.38	4.21	2.71*
	OL	28	21.50	3.58	-

Note: \* $P < 0.05$

**Conclusions:** This research finds that virtual reality learning environment can promote students' learning engagement and improve their academic performance. Online teaching should make more use of virtual reality technology.

1) Virtual reality technology can build a real learning environment, mainly by providing real learning tasks, more learning support and multi-modal interaction. In such a learning environment, students are more willing to explore knowledge.

2) At present, virtual reality technology has been widely used in some fields, such as fire safety, surgery, nursing and astronomy. However, compared with other fields, virtual reality education is still at the experimental stage, and it calls for psychologist and educator to cooperate and carry out detailed design.

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## FEAR AND ANXIETY DURING THE SARS-COV-2 PANDEMIC

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Fear of the unknown is considered to be the oldest and strongest type of fear in humans. It includes intolerance of newness, change and uncertainty, and is a basic component of pathological anxiety and anxiety disorders. The coronavirus pandemic carries many unknowns, resulting in chronic exposure to uncertainty. Assessment of unknown as a challenge or a threat leads to an adaptive or maladaptive response and effective or ineffective coping strategies.

During pandemic, while we all need to be able to tolerate or accept some degree of uncertainty, persons who are vulnerable tend to become highly anxious about the infection, especially if they overestimate the danger and see themselves as "easy targets". Research indicates that anxiety is one of the most common psychological problems while the world is adapting to the "new reality". Predisposed individuals may develop coronaphobia (excessive fear of contracting the virus with avoidance of public places and situations), OCD with excessive body temperature checking and sterilization, health anxiety, generalized anxiety disorder, etc.

Key pandemic anxiety provoking factors, differences in individual vulnerability and anxiety manifestations as well as strategies for adaptive anxiety coping are present.

**Key words:** SARS-CoV-2 pandemic, fear, anxiety

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## COVID-19 CHALLENGES FOR NOWDAYS AND FUTURE: CONSEQUENCES OF THE NEW AGE

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During the last two years, we have met with the greatest medical challenge which has afflicted and which enabled us to show that anything is possible in medicine, but also that we are all ready to deal most adequately with all possible situations.

As an internist and pulmonologist, I have been saving human lives on the front line together with a team of top experts, my colleagues doctors specialized in various fields of medicine, and nurses and medical assistants integrated in pandemics which has unfortunately taken many lives and has left many patients with permanent consequences. But still I am very proud to say that we have saved many lives.

Post Covid Syndrom includes numerous symptoms and requires multidisciplinary attitude as it is a virus that causes mental and physical health consequences.

Interactive cooperation of the psychiatrist and the internists is of great importance in order to help our patients and medical profession to fight the challenge which is present all the time and will be with us for