The Influence of Outward Training on the Physical and Psychological Quality of College Students in Jilin Province

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Abstract: Quality outward training in colleges and universities is an important method to cultivate the comprehensive quality of college students, and it is a necessary way in the information age. Based on this, this paper mainly studied the influence of college quality outward training on the overall quality of college students in Jilin Province, and analyzed the practical significance of quality outward training in colleges and universities.

1. Introduction

The development of the information age has driven people to pursue things constantly. Social progress requires that college students in the new era must have certain comprehensive qualities. In order to cultivate the comprehensive quality of college students, major universities actively cooperate with other education departments to provide training opportunities for students. Quality outward training has become a better way. Quality outward training can lay the foundation for college students to step into the society, tap and cultivate the teamwork ability of college students, and foster their ability of persistence and innovation, which has attracted people's attention in the new era.

2. Research Object

This study used a random sampling method to select 30 male students and 70 female students in colleges and universities in Jilin Province. They are randomly divided into two classes. One class is the experimental class, and the other class is the control class. Each class has 50 people with a total of 100 people, and the ratio of the two groups of boys and girls is equal (each class has 15 boys and 35 girls).

3. Research Methods

3.1 Literature analysis.

According to the purpose of the research and the needs of the content, the library and electronic network are used to access relevant research data for summary and analysis. This article had a certain understanding of the current research and frontier dynamics of the combination of college sports and outward training. This provides a theoretical basis for the research of this paper and lays a theoretical foundation.

3.2 Interview method.

In this study, the interview method used by the author were mainly expert interviews and student interviews. Expert interviews mainly included experts in physical education training, psychology, and senior quality outward training teachers. The student interviews were mainly for students who participated in the outward training course. These interviews can help the author obtain the data for the research.

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3.3 Experimental method.

The experimental group will use the outward training program as the teaching process, and the control group will follow the original teaching plan. The comparative analysis method was used to evaluate the indicators before and after the experiment, and the data for the study were obtained.

4. Research Process

4.1 Training design.

The students in the control group were given regular teaching, and the students in the experimental group had outward training on the basis of regular teaching. The specific situation is shown in Table 1.

Table 1 The design and content of outward training

Part	Time	Teaching steps and methods
Beginning part	5 minutes	1. The monitor gathers the whole team and reports the number, and the teachers and students say hi to each other. 2. The teacher announces the basic requirements of the teaching content and class. 3. The teacher checks attendance. 4. The teacher arranges trainees.
Preparation part	15 minutes	1. The joints are fully stretched,and the body is hot and slightly sweating. 2. The teacher explains to the students that during the process, the teacher does not answer any questions. Students complete it by themselves and the teacher remind the students to listen carefully.
Basic part	40 minutes	1. The teacher Introduces the project name, tasks and rules to the students. 2. The teacher emphasizes protective measures and announcements. 3. The teacher announces the time to complete the project.
Ending part	30 minutes	1. The review will help the trainees to digest, organize, and enhance the experience in the training in order to achieve the specific purpose of the activity. 3. The summary can help trainees transfer the harvest in the training to the work and study to achieve the ultimate goal of teaching.

4.2 Evaluation design.

Physical quality indicators: It includes standing long jump, grip strength, 4 × 10 m round-trip run, sit and reach, sit-ups (female), pull-ups (male). According to the "Students' Physical Health Standards" and combined with the actual situation, the article selected the physical quality indicators that basically reflect the physical condition of the testers. Psychological indicators are based on the "Symptom Self-Assessment Scale SCL-90" and the "Social Adaptability Diagnostic Scale". The psychological measurement tool used in this research is the "Self-Assessment Scale for Mental Symptoms SCL-90". The tool for measuring students' social adaptability is the "Social Adaptability Test Questionnaire". The above measurement tools are used repeatedly, and the scales and questionnaires with high reliability and validity are approved by experts and scholars. In the experiment process, the measurement tools are needed to test the indicator before and after the experiment. Therefore, there is the reliability and validity of the retest. In order to solve this problem, the questioning method of some questions in the scale is modified after the test. The main meaning, answer content and location are unchanged.

4.3 Data processing.

This paper collected the questionnaires, surveys, interviews and questionnaires. The effective data measured before and after the experiment is used to perform regular mathematical statistics on the test results with the Excel and statistical software SPSS18.0 according to the research purpose and content classification, and the statistical principles and basic methods of sports statistics and social survey.

5. Results Analysis

5.1 Research results.

(1) Comparative analysis of the test indicator of the control group and the experimental group before the experiment. The six physical quality test indicators in this study include standing long jump, grip strength, 4×10 m round-trip run, sit and rich, sit-ups (female) and pull-ups (male). Among them, standing long jump is a test indicator reflecting the explosive power of the human body, and it is the combination of human strength and speed. Therefore, standing long jump is also an indicator reflecting the strength and speed of the lower limbs of the human body. Grip strength, pull-ups and sit-ups are all test items for testing human strength. Grip strength and pull-ups mainly test the upper limb strength and endurance of male testers. Sit-ups mainly test the waist and abdominal muscle strength and endurance of female testers. The sit and reach is a project that reflects the flexibility of the human body, and mainly reflects the stretching ability of the muscles, joints, legs and ligaments when the human body completes the movement. The 4×10 m round-trip run mainly reflects the speed, sensitivity and coordination of the human body. The test of the above indicators can basically reflect the physical condition of the tester. According to the experimental results, there was no significant difference between the experimental group and the control group in the first six physical quality indicator P>0.05, indicating that the two classes are basically the same in terms of physical quality, which ensured the rationality of the experiment.

Table 2 Comparison of physical health

Group	Item	The number of people	Before the experiment	After the experiment	Difference	P
Experimental group	Standing long jump(cm)	50	202.52±31.25	203.42±31.52	1.965	0.053
	Grip strength(Kg)	50	32.72±6.65	33.12±6.08	- 1.371	0.176
	4×10 m round-trip run(s)	50	12.41±1.43	12.37±1.38	1.967	0.054
	Sit and reach(cm)	50	17.12±5.50	17.24±4.89	- 0.575	0.568
	Sit-up(how many)	35	31.57±6.21	31.80±6.08	- 0538	0.594
	Pull-up (how many)	15	7.53±3.00	7.93±2.65	- 1.755	0.090
Control group	Standing long jump(cm)	50	203.55±32.20	208.12±32.91	- 4.445	0.000
	Grip strength(Kg)	50	34.35±10.96	34.75±11.29	- 0.734	0.466
	4×10 m round-trip run(s)	50	12.34±1.27	12.19±0.98	2.052	0.045
	Sit and reach(cm)	50	18.50±6.23	19.05±5.73	- 3.615	0.001
	Sit-up(how many)	35	31.20±6.50	32.43±6.38	- 1.599	0.121
	Pull-up (how many)	15	7.57±2.73	8.07±2.43	- 2.457	0.019

(2) Comparison of results after the experiment. It can be seen from the statistical results in Table 2 that the six physical quality indicators of the experimental group did not reach a significant level before and after the experiment (P>0.05), indicating that the improvement of the physical quality of the students was not obvious. In the control group, the four indicators of standing long jump, 4×10 m round-trip run, sit and reach and pull-ups reached a significant level (P<0.05). Two of the physical quality indicators reached a very significant level (P<0.01), which shows that the traditional physical education teaching has obvious effect on improving the physical quality of students.

Through the analysis of Table 3, students in the experimental group had very significant differences in hostility and interpersonal relationship after training through the outward training project (P<0.01). Outward training always requires a firm confidence and a strong fighting spirit. Working through teams can help students further understand the importance of the team and the importance of independent individuals in the collaboration. According to the needs of teamwork, students need to constantly change the role and status, learn to take care of others and constantly understand others' feelings. This will help improve the spirit of mutual trust and unity in the team and promote the benign development of the relationship between students.

Table 3 Psychological situation

Group	Item	Before the experiment	After the experiment	Difference	P
Experimental group	Depression	1.58±0.40	1.45±0.26	0.223	0.034
	Anxiety	1.44±0.28	1.30±0.20	2.072	0.002
	Interpersonal sensitivity	1.65±0.42	1.43±0.27	2.037	0.000
	Terror	1.35±0.35	1.37±0.40	2.758	0.851
	Psychotic nature	1.49±0.31	1.42±0.21	2.767	0.141
	Hostility	1.49±0.31	1.42±0.21	2.463	0.005
	Somatization	1.30±0.20	1.33±0.26	0.820	0.560
	Stubbornness	1.54±0.35	1.43±0.20	1.998	0.095
	Compulsion	1.81±0.43	1.61±0.33	2.004	0.002
Control group	Depression	1.64±0.50	1.62±0.40	0.156	0.144
	Anxiety	1.48±0.40	1.40±0.32	0.732	0.310
	Interpersonal sensitivity	1.70±0.45	1.65±0.36	0.165	0.111
	Terror	1.37±0.32	1.30±0.31	1.089	0.258
	Psychotic nature	1.44±0.35	1.40±0.32	0.225	0.583
	Hostility	1.44±0.47	1.42±0.37	0.353	0.195
	Somatization	1.33±0.33	1.30±0.33	-0.485	0.637
	Stubbornness	1.46±0.48	1.43±0.35	0.069	0.170
	Compulsion	1.84±0.53	1.80±0.36	0.358	0.123

5.2 Influence analysis.

(1) The indicators in outward training to strengthen the physical strength of students have different influence on students. The most direct effect is the impact on physical skills. In rock climbing, students contact the climbing surface and their bodies are close to the wall. They balance themselves by pedaling. To maintain balance requires climbing speed. Because the body is suspended and it is difficult to exert all its strength. They can complete the climbing with the coordination of the arm and leg muscles. Therefore, rock climbing tests the explosive power of the students, the strength of the limbs and the ability to coordinate the limbs. Therefore, climbing training can strengthen the physical strength of students to a certain extent, further explore the

development space of students' physical strength, build self-confidence, and better promote students to face the next challenge.

(2) The student period is the golden age of physical exercise to exercise the physical flexibility of the students. When the vital capacity and the physical fitness will be close to or reach the peak period, students only study indoors for a long time. Therefore, it is difficult for them to really meet the requirements in sports indicators. In the movement, the limbs cooperate with each other to test the students' athletic ability and to examine students' flexibility. In the outward training, students usually need to perform a large body movement to ensure that a certain task is completed, and the pre-heating activity is required before the body muscles are greatly stretched. This purpose is to help increase the core temperature and muscle temperature of the body, and the temperature increase can make the muscles more slack and flexible, so that the body ligaments can be stretched to the maximum extent, thus helping the muscle tendons and joints to receive more hard training. Relatively speaking, the lower flexibility will make body difficult to maintain coordination, and the chances of students being injured in sports will become higher. The outward training can strengthen the body strength and the direction of physical movement to gradually improve the students' flexible quality and ultimately reduce the chance of student injury.

(3) In the various types of sports, difficulty level of the project to improve the sensitivity of the body may limit the sensitivity of the student's body to a certain extent. In the process of completing the task, student needs to master the technical application of completing the project. They need to have an in-depth understanding and constantly adjusts themselves in the course of the practice to accurately analyze the situation, so as to grasp the opportunity to achieve the goal quickly. In order to further complete various tasks, it is necessary to strengthen the sensitivity of various parts of the body.

In summary, the quality outward training of colleges and universities is an important training method. The quality outward training in colleges and universities can train physical and psychological qualities of students continuously. During the training period, the cooperative relationship between the students can be well established, and the students can cultivate the the spirit of unity, cooperation and hard work. At the same time, this can develop students' thinking, so as to better promote the students to face challenges in the future work and study.

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