

infiltration, and continuously promote the development of the ideological and political system of public PE curriculum.

**Table 1.** Influence of ideological and political teaching reform in college physical education from the perspective of educational psychology

Content	Creation system	Enhance ideological and political literacy	High level design course
Student	4	5	4

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## NEW MODE SELECTION AND REALIZATION OF THE COOPERATIVE EDUCATION IN THE CONTEXT OF SOCIAL PSYCHOLOGY

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**Background:** Through many years of exploration and practice, China has made a great breakthrough in the present mode of industry-university-research cooperation education, which not only effectively solves the difficult educational problem of students' employment, but also promotes the all-round development of students, effectively promotes the teaching level of college majors, and is of great significance to students' study, future career choice and career planning. At present, the mode of industry-university-research cooperative education is widely used in our country, and its basic characteristics are as follows: (1) The transformation of the goal of talent training, the mode of industry-university-research cooperative education embodies comprehensive quality education, attaches importance to the cultivation of students' practice, application and innovation ability, and aims at promoting students' comprehensive development. (2) The specific program of talent training is not determined unilaterally by colleges, but formulated jointly by colleges and enterprises, so that the mode of education of industry-university-research can not only meet the educational requirements of colleges, but also meet the positioning and demand of enterprises for talents, and schools and enterprises jointly undertake the task of talent training, and run the actual educational demand and the actual demand of enterprises throughout the whole learning process of students. (3) Adhering to the principle of "work-study alternation and two-way participation", students can fully develop in the learning process, and can fully develop in both theoretical courses and practical courses. (4) The mode of education cooperation combines "teaching, learning and doing", pays attention to the educational demand and characteristics of professional courses, and is conducive to students' experiential learning.

**Objective:** Social psychology refers to the study of the psychological and behavioral development and changes of individuals and groups in social interactions. Social psychology explores interpersonal relationships at the individual and social group levels. Individual socialization process, communication, speech development, partners, family and living environment, and the influence of school on individuals are studied at the individual level. At the level of social groups, the study includes: group communication structure, group norms, attitudes, racial prejudice, aggression, customs and culture.

**Subjects and methods:** The cooperative education mode of production, study and research in colleges and universities includes technology cooperation mode, union mode and integration mode. Applying social psychology, through the paid transfer of the scientific research achievements of colleges and universities, can not only promote the productivity of enterprises, but also put the scientific research achievements into the development and production of enterprises, and at the same time, enterprises also give scientific research funds to schools to achieve a win-win situation and promote social development. The joint mode is a kind of educational mode of deep cooperation between enterprises and colleges and universities, in which colleges and enterprises jointly invest to establish joint-stock enterprises. The advantage of this model is that universities and enterprises are closely linked in material benefits, which can be said to be a model of deep cooperation to eliminate the doubts of both sides and meet their social and psychological needs. Integration mode is one of the most important modes in the cooperative education mode of production, study and research in colleges and universities, which means that after the success of research on a certain achievement, colleges and universities directly cooperate with enterprises in the society to provide technical services for enterprises, and gradually expand the scale and establish an enterprise group in the future development. The advantage of this mode is that the technology or products developed by colleges and universities can be transformed into commodities in the future market, and the technology or products with high investment rate and high return can be transformed into supporting products quickly. Thus, the

mode of integration of production, study and research of colleges and universities can not only provide effective support for social development, but also supplement funds for colleges and universities. This research mainly analyzes the influence of the choice and realization of the new mode of the cooperation education based on the social psychology background.

**Study design:** Random selection of university students 500, age unlimited, gender unlimited, professional unlimited. Questionnaire survey was used to popularize the knowledge of social psychology among nearly 500 college students. The content of the questionnaire includes three aspects: the change of talent training goal, the determination of talent training program, and the students' all-round development in the learning process.

**Methods:** All the data were collected, summarized and analyzed by SPSS 3.0 statistical software.

**Results:** The results of this survey use the influence values of 1 to 5 grades and specific quantitative factors, 1 indicating irrelevance, 2 indicating slight influence, 3 indicating general influence, 4 indicating obvious influence, and 5 indicating full influence. In order to reduce the relatively large error caused by individual subjectivity in the evaluation, the evaluation values of 500 college students are adopted and the average values are rounded off to obtain the results. The specific statistical table is shown in Table 1.

**Table 1.** Research on the influence of the selection and realization of the new mode of industry-university-research cooperative education under the background of social psychology

Content	Transformation of talent training objectives	Determination of talent training scheme	All-round development of students
University student	5	5	4

**Conclusions:** The mode of industry-university-research cooperation in higher education has a long history of application, and now it has more profound implications. Nowadays, under the intervention of social psychology, the cooperative education mode of production, study and research can not only understand the students' psychological needs, meet the students' psychological conditions, improve the students' employment rate, but also strengthen the students' comprehensive quality, promote the students' mental health and all-round development. In the future, we also need to combine practice, explore the students' psychology, constantly explore more operational mechanism of the cooperative education mode, and constantly improve the education level.

**Acknowledgement:** The research is supported by Planning of philosophy and Social Sciences in Zhejiang: Research on the selection and Realization Mechanism of collaborative innovation mode based on the perspective of innovation subject (18NDJC272YB).

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## RESEARCH ON AUTOMATIC OCEAN TRAFFIC ROUTE GENERATION BASED ON ANT COLONY ALGORITHM AND POSITIVE PSYCHOLOGY

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**Background:** Ant colony algorithm is a kind of optimization decision method based on the function of natural ants, which sets a certain number of artificial ants, according to a certain search rule, to obtain the best overall performance path. When an ant forages, different ants choose different paths from nest to food source, but at last, almost all of them find the same shortest path. This is because the ant's search for the shortest path is an interactive process, leaving behind a certain amount of pheromone, and sensing the presence and intensity of the hormone and moving in the direction of the substance's high intensity. These hormones both increase with the number of ants that pass through them and dissipate over time in a functional relationship. Because there are more ants in the shortest path, the accumulation of hormones on the shortest path will be faster than other paths. Using pheromones, the colony communicates information over time, and eventually finds the best route from the nest to the food source.

The research of route auto-generation is to search for the safest and most economical route according to the environment and safety conditions between the sailing point and the destination. The electronic chart platform provides us with the information query function of the sea area, which can automatically obtain the information of the sea area, such as water depth, shoreline, obstruction, no-navigation area, threat area and so on. So, it is feasible to use ant colony algorithm to solve the problem of automatic route generation.