

expert feedback were sent to the expert group and the physical education teacher group again, and they were asked to evaluate the impact of various opinions on students in all aspects which is shown in Table 1.

**Table 1.** Comments of experts and scholars on the adjusted opinions

Opinion	Enthusiasm	Learning speed	Learning difficulty	Physical quality	Habit cultivation
Teachers should actively guide and encourage students	4.53	4.27	3.01	2.86	3.67
Dynamic adjustment of physical education syllabus according to students' ability	2.30	3.48	4.85	1.33	3.51
Adjust the teaching staff according to the teaching content	2.43	3.24	2.86	4.04	1.39
Diversification of physical education curriculum content	3.95	3.40	2.72	1.93	3.25
The interesting physical education teaching process	4.28	4.69	3.74	2.68	4.17

It should be explained that the impact level is numerically calculated according to the rule that 1 is no impact, 2 is slight impact, 3 is medium impact, 4 is significant impact and 5 is full impact. It can be seen from Table 1 that the interviewed experts and PE teachers believe that the adjusted reform suggestions have different effects on students. Specifically, they believe that the three opinions of “teachers should actively guide and encourage students”, “diversification of physical education curriculum content” and “interesting teaching process” have a more consistent impact on students, which will have a higher than significant impact on students' enthusiasm and learning speed, followed by the impact on habit cultivation. The opinion of “adjusting the teaching staff according to the teaching content” has the greatest impact on students' physical quality. “Dynamic adjustment of physical education syllabus according to students' ability” has the greatest impact on students' learning difficulty.

**Conclusions:** In order to deal with various problems existing in physical education in colleges and universities in China, this study attempts to apply the principles and methods of teaching psychology to physical education in colleges and universities. Firstly, based on the analysis of a large number of relevant documents, the original suggestions are obtained, and then a group of domestic experts and front-line teachers in the field of physical education are selected by Delphi method, ask them to give feedback on these opinions and seek feedback again after adjustment. Finally, according to the statistics, experts and teachers believe that “teachers should actively guide and encourage students”, “dynamically adjust the physical education syllabus according to students' ability”, “adjust the teaching staff according to the teaching content”, “diversify the physical education curriculum content” and “make the physical education teaching process interesting” are the opinions that have the greatest comprehensive impact on the college students. Specifically, these opinions are put forward from the perspective of schools, teachers, or students, taking into account the educational psychology and objective educational conditions of students. Delphi survey results show that experts believe that integrating the methods and principles of educational psychology into college physical education can improve the quality of college physical education and improve students' physical education level.

\* \* \* \* \*

## THE INFLUENCE OF FARMERS WITH COGNITIVE IMPAIRMENT ON E-COMMERCE SUPPORTING AGRICULTURE AND ITS COUNTERMEASURES

Haijing Hu

*Agricultural and Commercial Management College, Jiangsu Agri-animal Husbandry Vocational College, Taizhou 225300, China*

**Background:** Cognitive impairment is a mental and psychological disease caused by abnormal function of human cerebral cortex. Its clinical manifestations are mainly perceptual impairment, memory impairment and thinking impairment. There are many causes of abnormal cerebral cortex function, such as depression, Alzheimer's disease, manic disorder and so on. In some rural areas of China with low overall education and poor health habits, the factors that may lead to cognitive impairment appear more frequently, so there are more patients with cognitive impairment in rural areas of China, which brings additional difficulties to the

development of various rural revitalization and rural poverty alleviation. Especially for the e-commerce poverty alleviation and agricultural support work that requires the operator to have a high cognitive level, if the operator suffers from a certain degree of cognitive impairment, it will greatly affect the processing, storage, packaging, transportation of sales products and online communication with consumers. Therefore, in order to promote the rapid development of rural e-commerce, promote the structural reform of rural agricultural supply side, increase the family disposable income of poor farmers, and solve the cognitive impairment of some farmers, it is quite necessary and urgent.

**Objective:** To find the countermeasures to solve or alleviate the cognitive barriers of some farmers in China, so as to help their rural e-commerce business further develop, so as to promote the income generation and poverty alleviation of local residents, and provide more positive ideas for improving the working methods of e-commerce industry in the countryside.

**Objects and methods:** Collect the historical data and cognitive impairment academic research materials of e-commerce supporting agriculture in China, sort them out and analyze them, and theoretically summarize the effective methods to help farmers with cognitive impairment develop e-commerce business. Then, an empirical analysis experiment was conceived, in which 20 unrelated independent farmers with different degrees of cognitive impairment symptoms were selected as the research object. These farmers were randomly divided into experimental group and control group, with 10 farmers in each group. Firstly, the basic information statistics of the two groups of farmers including the severity level of cognitive impairment, gender, age and other characteristics were carried out. After confirming that there is no significant difference in the basic information, the farmers in the experimental group will receive special training on cognitive impairment and knowledge and skills related to the e-commerce business. The main contents of the training are as follows. The first point is to introduce the definition, etiology, treatment methods and precautions in the daily life of cognitive impairment. Secondly, teach the impact, harm and effective coping methods of cognitive impairment on various key matters in poverty alleviation e-commerce work (such as the workflow of agricultural product planting, transportation, storage, processing, packaging and so on). The control group received only ordinary e-commerce agricultural skills training. The training time of the experimental group and the control group is 3 months, and the poverty alleviation department of the local government is requested to provide the data of the average online sales of the last month, the average online monthly sales profit and life satisfaction of the research object within half a year before participating in the experiment and half a year after the completion of the training.

**Results:** After the experiment, the relevant data of the research object provided by the poverty alleviation department of the local government were sorted into a standard form that is easy to calculate, and SPSS21.0 was used and Python 2.0 programming language for statistical analysis. In terms of result presentation, the measurement data needs to be expressed in the form of mean combined with standard deviation, and t-test needs to be carried out. In addition, the difference significance level index is set to 0.05. The e-commerce performance and other data of the two groups of farmers before and after the training are counted, as shown in Table 1.

**Table 1.** Statistical results of e-commerce performance and life satisfaction of two groups of farmers before and after training

Statistical time	Statistical indicators	Experience group	Control group	<i>t</i>	<i>P</i>
Before training	Average monthly sales of online stores	27562±5120	27611±5489	0.069	0.945
	Average monthly sales profit of online store	3562±533	3541±469	0.313	0.75
	Life satisfaction	2.69±0.16	2.70±0.12	0.530	0.596
After training	Average monthly sales of online stores	32915±4226	29644±3792	6.102	0.000
	Average monthly sales profit of online store	4685±617	3920±423	10.856	0.000
	Life satisfaction	3.92±0.18	3.15±0.21	29.417	0.000

The indicators of life satisfaction in Table 1 are quantified according to the five-level scoring system. The specific rules are: 1 represents dissatisfaction, 2 represents relative dissatisfaction, 3 represents neutrality, 4 represents relative satisfaction and 5 represents satisfaction. It can be seen from Table 1 that the *P* value of the *t*-test of each comparative data of the two groups before training is greater than the significance level of 0.05, and it is considered that the data difference is not significant. After the training, the data of each statistical index in the experimental group were better than that in the control group, and the difference was statistically significant.

**Conclusions:** In view of the problem that farmers with cognitive impairment cannot adapt to the business model of the e-commerce industry in the process of supporting the development of agricultural e-commerce in some areas of China, this study randomly selects some farmers with cognitive impairment from a rural e-commerce industry in China for a group experiment. The experimental results show that the average monthly sales and online monthly sales profit of the experimental group receiving the coping strategies training for cognitive impairment diseases increased by 11.03% and 19.52% respectively compared with the control group, and the satisfaction of the former is also significantly higher than that of the control group. The experimental results show that training farmers with cognitive impairment on the coping methods of diseases in the process of e-commerce operation are helpful to improve farmers' e-commerce income and life satisfaction.

**Acknowledgement:** The research is supported by: The Project of Jiangsu Agri-animal Husbandry Vocational College in 2019: Research on the Integrated Development of Primary, Secondary and Tertiary Industries in Rural Taizhou under Rural Revitalization (Project No. NSFR201902).

\* \* \* \* \*

## STRATEGY OF COLLABORATIVE EDUCATION IN COLLEGE PHYSICAL EDUCATION AND ITS INFLUENCE ON COLLEGE STUDENTS' PSYCHOLOGICAL ANXIETY

Rongbin Yang

*Sport Department, Zhejiang University of Science and Technology, Hangzhou 310023, China*

**Background:** As China's higher education system pays more and more attention to quality education, it is gradually of value and necessity to flexibly integrate the content of mental health education in college physical education. Because at present, most colleges and universities in China have not specially set up mental health education courses. Integrating these contents into physical education teaching will not occupy too much existing teaching time. Moreover, allowing students to learn mental health knowledge in the process of sports can promote students' physical and psychological development towards a healthier direction at the same time, and can also alleviate to a certain extent, even completely solve the anxiety of some students due to their poor study, employment and life. The research results of some scholars show that integrating mental health education into college physical education can protect students' mental health, promote students to form good quality and living habits, and improve students' self-confidence and comprehensive ability. At present, there are three specific ways to combine college physical education with mental health education: improving the mental health education ability of physical education teachers, requiring schools and teaching teachers to improve their attention and material investment to students' mental health, and reforming the teaching methods of college physical education. This study will specifically analyze the effects of these strategies on students' psychological anxiety.

**Objective:** To design a machine learning model and analyze the impact of various mental health education methods on students' psychological anxiety after they are integrated into college physical education. So as to provide some ideas and examples for other scholars to conceive the collaborative education strategy of college physical education and mental health education in the future.

**Objects and methods:** A machine learning model based on GBDT (Gradient Boosting Decision Tree) algorithm was constructed to predict the psychological anxiety of students under the combination of physical education and mental health education in different colleges and universities. The data of the experiment comes from a third-party data dealer. The content of the data set is the learning psychological anxiety scores obtained from the combination of various psychological safety education measures to the college physical education teaching of students with no significant difference in psychological anxiety groups. Here, the psychological anxiety score after taking measures is the label of the data set. Before model training and prediction, single-factor analysis is carried out for each strategy. After the model is optimized 15 times, the historical optimal prediction results are obtained, and the importance coefficients (i.e., regression coefficients) of each input feature of the model (i.e., the collaborative education strategy adopted) are counted, so as to find a better psychological health collaborative education strategy integrated into college physical education. In addition, the anxiety score data were measured by the Self-rating Anxiety Scale (SAS).

**Results:** The statistical results of the corresponding input feature importance of the model with the best prediction effect in the limited parameter adjustment scheme are obtained, as shown in Table 1.

**Table 1.** Statistical results of input characteristic importance coefficient