

# Training of Innovation Ability of Students Majoring In Physical Education under the View of Embodied Knowing

Bing Wang<sup>1, a</sup>, Zhong Wei<sup>2, b\*</sup>

<sup>1,2</sup> School of Freshmen, Xi'an Technological University  
Xi'an, 710032, Shaanxi, China

<sup>a</sup>email:151671397@qq.com, <sup>b\*</sup>email:84355881@qq.com

**Abstract.** The article adopts the methods of logical analysis and bibliographic research to analyses the innovation practice of sports majors from the perspective of body knowledge. The main factors that lead to the unsatisfactory effect of teaching practice are the solidification of school idea, the incomplete mechanism of innovation education, the imperfect innovation system and the weak conditions of teachers. The theoretical framework of sports practical teaching management is condensed: "One" goal, that is, the goal of improving students' practical ability; "Two" means, that is, two ways in and out of class; "Three" courses, it includes theory course practice, comprehensive course practice, technique course practice, "4 items" system, namely system theory "Target", "Content", "Management", "Guarantee" system, "5 items" optimization, that is, from the idea optimization, teaching materials optimization, teaching methods optimization, mechanism optimization, optimization of the environment 5 aspects of optimization, and gives the specific measures of operation, in order to provide reference and suggestions for the practical teaching reform of P. E. Majors. Students in this research.

**Keywords:** Physical education; Practice; Teaching; Innovation; Embodied knowing

## 1. Introduction

If the accumulation of knowledge is culture, then the essence behind the culture is wisdom. The Western rationalism and China's traditional "unity of human and nature" views inspire each other continuously. Our scholars put forward the "embodied knowing theory", which emphasizes the generation, dynamics and process of knowledge, as well as the emotional and social benefits of learning, and the education supported by practice and embodied knowing can change the predicament of education, which is trapped in the teaching of static and inert knowledge [1]. All kinds of problems, such as problems of global cooperation brought about by the rapid growth of knowledge, the disconnection between knowledge and wisdom caused by the rigid expansion of science, and the viewpoint difference of the embodied or disembodied curriculum (people who hold the traditional curriculum view attach importance to the external value, and knowledge separated from self-exploration, and neglect the intrinsic value of the spirit and the personality as well as personal experience) need to be pondered by education practitioners from the aspect of actual development of human beings.

## 2. Origins and Development of Practical Teaching

The concept of "practical teaching" first originated from John Dewey (1859-1952), who is regarded as "America's greatest philosopher" and "the father of Progressive Education". Dewey advocated learning by doing. He put forward the slogan that education is life and school is society. China has successively issued the "Decision on Deepening Reform and Comprehensively Promoting Quality Education" and the "Higher Education Law" and other policies, which clearly put forward the strengthening of practical ability training of college students as the main task. Innovation is the premise and foundation of entrepreneurship and the degree of innovation directly affects the success or failure of entrepreneurship and entrepreneurship is the sublimation of innovation. Entrepreneurship can not only enhance productivity but also expand employment, which can better benefit the society.

Aristotle pointed out: “Practical wisdom is a virtue”. Practical wisdom help cultivate students’ personality and practical ability by integrating the individual body and mind, the individual's knowledge of the feelings and intentions into practice and action. Embodied knowing is a specific application of the excellent traditional Chinese culture. The first meaning of body knowledge is to understand. The second meaning is a cognitive theory (method). It is a theory that takes the “body” as the ontology, and is characterized by directness and practicability. It can provide a method for the current education. Some scholars believe that an in-depth exploration of the concept of “Embodied knowing” will help us to seek the root and lifeline of education from cultural traditions, and to build a Chinese-style education by nurturing the life of education [2].

### 3. Problems on Innovative Education

**3.1 Current Problems of Innovation Education for College Students.** First of all, deep-rooted ideological concepts and behavioral patterns affect people’s thoughts and actions. For example: college students show a lack of self-confidence, ambition and innovative awareness and a presence of incomplete unity of thought and behavior, weak action, closed and conservative personality, weak autonomy and independence.

Secondly, the mechanism of innovation education should be improved. At present, for the majority of colleges and universities in China, innovation education only has the function of externalization, and its connotation and substantive effects are not ideal, which have not truly been integrated into the daily education of college students. College students’ innovation education lacks systematic research, and it is difficult to form a systematic system. For example, the entrepreneurship courses in college classrooms are fragmented and lack the rigor and systematic structure that a discipline should have. The form of innovation education is relatively single, and the system is not perfect enough, mainly focusing on classroom education, and the extracurricular innovation education activities are mainly reflected in the development of the activities themselves, and the effects of the activities are not guaranteed as expected.

Finally, unqualified staff. Teachers engaged in innovation education in colleges and universities give lectures to college students after receiving short-term training in related knowledge, and they tend to give theoretical lectures, and lack practical experience, so that they cannot really cultivate students’ entrepreneurial awareness and ability. In addition, the limited funds allocated to innovation education are insufficient, which leads to the fact that innovation education in some colleges and universities can only be carried out for a certain period of time, and it is impossible to establish a long-term development mechanism for innovation education.

**3.2 Current Problems of Innovation Education for College Students.** The innovation of college students majoring in physical education is affected by educational concepts, traditional culture, the current education system and the like. College students majoring in P.E. still have certain misunderstandings on the practice of innovation education, and different degrees of bias in conceptual understanding, curriculum, teaching methods and other aspects.

First of all, ideology. Some teachers and managers of colleges and universities do not have a comprehensive understanding of the situation of innovative education for students of physical education, and they cannot clearly grasp the importance and necessity of establishing an innovative training platform, and there are even some institutions of higher education that do not set up or do not introduce innovative education programs in physical education.

Secondly, for students majoring in physical education, due to the limitations of the professional structure, the comprehensive knowledge required for innovation is equal to the study of a minor major. This also causes that some universities don’t know how they should carry out innovation education for students, and most of the time, the innovation education is like a show imitating others without forming the unique features of physical education majors. This is not only unfavorable to the in-depth development of innovative education, but also may lead to the deviation of the development direction of innovative education. The shallow understanding of the concept of innovative education seriously hinders the further development of innovative education.

Thirdly, the innovative education system of P.E. majors needs to be improved. At present, the curriculum system, teaching mode, teaching methods, evaluation mechanism of sports colleges and universities lack the integration of innovative and creative education, which greatly weakened and suppressed the enthusiasm of students to take the initiative to learn, and also made the cultivated students conform to the rules and regulations, and lacked the sense of innovation and entrepreneurial skills. Students may be trained as future passive job seekers, and this kind of education is extremely disproportionate to the urgent need to cultivate entrepreneurial talents in the era of knowledge and education economy. Zhou Lidong, Chen Qihu (2015) found that the success rate of entrepreneurship among college students is only 2% -3% compared with the entrepreneurial success rate of 20% in the United States. The prospect for innovation and entrepreneurship of college students is not optimistic[3].

The focus of this project is to explore the measures and ways of constructing the innovation and entrepreneurship education practical training platform for college students majoring in P.E. by analyzing the shortcomings of the innovation and entrepreneurship education practice program and making better use of social resources and school resources.

## 4. Research Subjects and Methods

**4.1 Research Subjects.** The project's research targets are students and teachers of P. E.. The survey targets are teachers, students and administrators of P.E. from three universities: Xi'an University of Technology, Xi'an Institute of Physical Education, and Xi'an University of Architecture and Technology.

### 4.2 Research Methods

**4.2.1 Bibliographic Research.** Review the literature of the practice teaching system on CNKI and other websites. We mainly focus on knowing the development of practice teaching related to the P.E. major and familiarize the situation of students of other majors who have outstanding results in innovative practice teaching in order to get some insights.

**4.2.2 Interview.** (1) Know students' satisfaction with practice teaching and their suggestions through questionnaires (2) Interview practice instructors: understand the effect of the faculty's current practice teaching management system and the obvious problems faced by teachers in carrying out practice teaching through the organization of practice instructors' talks; (3) Interview the relevant personnel of practice (internship) units: focus on understanding the three aspects: students' moral character, professional theoretical knowledge and professional skills. Summarize the results of the above survey in a timely manner; (4) Interview experts: consult P.E. experts on the problems arising in the course of the above survey.

**4.2.3 Questionnaire.** Prepare the Questionnaire on the Satisfaction of Practical Teaching of Physical Education Students, do the reliability test of the questionnaire by retesting method, and improve the validity of the questionnaire based on the feedback from experts. The revised questionnaire was sent to students, 100 copies were distributed, and 83 copies were recovered, of which 79 were valid questionnaires, with an effective recovery rate of 79%.

**4.2.4 Mathematical Statistics Method.** Input the data from the Questionnaire and analyses with Excel software

## 5. Conclusion and Analysis

**5.1 Theoretical Exploration.** The system optimization strategy is to build a practice teaching system for physical education majors by combining the system theory concept of "driving, acting, regulating and guaranteeing". The optimization strategy of the system starts from 3 types of courses (theory course practice, comprehensive course practice, and art practice), and is based on the 4 subsystems of system theory: "goal", "content", "management", and "guarantee". Optimization is carried out in 5 aspects, combined with 2 ways inside and outside the classroom, in order to achieve the purpose of improving students' practical ability. The "54321" theoretical system of practical teaching is then formed.

Among them, five optimization is shown in:

First, the optimization of innovative ideas in P.E. majors and employment-oriented innovative practice teaching goal system of P.E. majors. This study incorporates innovative ability and independent entrepreneurship into the practice teaching developing goal system of P.E. majors. For example, students host competitions on campus, and teachers are responsible for guidance.

Second, optimization of teaching materials for physical education majors. Incorporate the links, QR codes, animated videos and other diversified ways into teaching materials.

Third, optimization of pedagogy in physical education. Teach students methods rather than mere knowledge.. Inspire students in the teaching process by hiring on-campus teachers (full-time) off-campus tutors (part-time), teams made up of different teachers (different majors, different grades), and the like.

Fourth, the optimization of innovative mechanisms of P.E. majors. The optimization of organizational management, goal management, system management and teaching evaluation system need to be implemented into the specific operation of innovative practice teaching.

Fifth, the optimization of the innovation environment of physical education majors. it includes: organizing on- and off-campus innovation competitions to cultivate a good environment for innovation; improving the system policy to provide institutional and executive guarantee for innovation practice; and strengthening the cognition and training of innovation concepts of the faculty.

## 5.2 Hands-on operation

**5.2.1 Objectives.** The existing target system of P.E. majors is relatively general with weak specificity. It only transfers the training objectives and requirements of P.E. major listed in the Catalogue of Undergraduate Majors in General Institutions of Higher Education to the teaching plan, so that the construction of the whole practical teaching system is in an empirical state. Innovative education objectives are not specific. Table 1 shows the degree of students' understanding of innovation education , and only 25.3% of the students know it very well, which indicates that most of the students do not know much about the innovation education , and on the other hand, it shows that the faculty needs to do solid work in communication and publicity of innovation education.

Table 1. Students' knowledge of innovative education

|         | Expert | Very familiar | Moderately familiar | Unfamiliar | In total |
|---------|--------|---------------|---------------------|------------|----------|
| Number  | 9      | 11            | 32                  | 27         | 79       |
| Percent | 11.4   | 13.9          | 40.5                | 34.2       | 100      |

**5.2.2 Guarantee system.** The survey found that the distribution of students' satisfaction with the experimental facilities is relatively even.  $\geq$  satisfied: 26.6%; moderately satisfied: 34.1%;  $\leq$  unsatisfied: 39.3. Overall, the students who think that they are moderately satisfied and unsatisfied account for 73.4%, which means that most of the students are unsatisfied with the experimental facilities. The reason for this is mainly due to the weak construction of internship (testing) sites and facilities, and some old and insufficient practical experimental equipment. Conditions such as the guarantee of practical teaching sessions still need to be updated and improved.

Table 2. Students' satisfaction survey on laboratory facilities

|         | Very satisfied | Satisfied | Moderately satisfied | Dissatisfied | Completely dissatisfied | In total |
|---------|----------------|-----------|----------------------|--------------|-------------------------|----------|
| Number  | 7              | 14        | 27                   | 23           | 8                       | 79       |
| Percent | 8.9            | 17.7      | 34.1                 | 29.1         | 10.2                    | 100      |

**5.2.3 Management, Content System.** Students are still satisfied with the effect of practical teaching, reflecting their satisfaction with the management and content of practical teaching. In Table 3, 53.1% are satisfied (including) and 17.8% are dissatisfied (including), which shows that in practice

teaching, the practical teaching, management outputs and the access to the student end are not bad. The students are more recognized for the quality of the teaching.

Table 3. Survey on students' satisfaction with the effectiveness of practical teaching

|         | Very satisfied | Satisfied | Moderately satisfied | Dissatisfied | Completely dissatisfied | In total |
|---------|----------------|-----------|----------------------|--------------|-------------------------|----------|
| Number  | 11             | 31        | 23                   | 11           | 3                       | 79       |
| Percent | 13.9           | 39.2      | 29.1                 | 13.9         | 3.9                     | 100      |

## 6. Conclusions

At present, the main problems of innovation education include: the immobilization and restriction of traditional habitual ideas, the incomplete mechanism of developing innovative education in colleges and universities, the imperfect disciplinary system of innovative education, the relatively single form of innovative education, the unsatisfactory effect of activities, the weak conditions of teachers and so on. The study puts forward the theoretical framework of "54321" in sports practice from the perspective of body knowledge, the practice teaching of physical education specialty can optimize the practice teaching system from "One" goal, "Two" means, "Three" courses, "Four" system and "Five" aspects. It enriches the practical teaching theory of P. E. Major from the middle view.

It is a long-term and systematic process to optimize the professional practical ability of P. E. postgraduates. According to the principle of scientific system, from the top-level design to implementation, effective ways and methods of training are formed. In order to cultivate students' practical ability, we should make full use of teachers' resources, strengthen the maintenance and use of practical teaching facilities, and focus on students' subjective experience and effect. To promote the real occurrence of learning, and finally make students physical and mental abilities in the process of training and improve. This is the follow-up research needs to consider the problem and direction.

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