

# A study of creative classroom teaching strategies for sports injuries and prevention under the OBE philosophy

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**Abstract:** *As a compulsory course in higher vocational physical education institutions, the sports injury and prevention course is important for improving students' knowledge of sports injuries and their ability to prevent and control them. In order to optimize the effect of classroom reform, a research on the creative classroom teaching strategy of sports injury and prevention under the concept of OBE is proposed. Firstly, the concept of OBE is analyzed, and combined with the curriculum training system, the concept is analyzed with the integrable part of the course design process. Then the current situation of the sports injury and prevention course is analyzed by taking the teaching objectives and the form of teaching links as an entry point. Finally, specific teaching strategies for the course are proposed, including dividing the course modules, writing cases of sports injuries; organizing classroom teaching as well as promoting school-enterprise cooperation and building off-campus practical training bases. The aim is to integrate the prevention and treatment of sports injuries into physical education teaching and to improve students' health awareness as well as skills.*

**Keywords:** *OBE concept; sports injury and prevention; creative classroom; teaching strategies*

## 1. Introduction

In recent years, the issue of sports injuries has received increasing attention with the popularization of sports activities and the rise in people's demand for health. Sports injuries not only affect students' physical health and mental health, but also may have a negative impact on their learning and life. The traditional way of teaching physical education often focuses only on the teaching of motor skills and ignores the prevention and management of sports injuries<sup>[1]</sup>. Therefore, how to integrate the prevention and treatment of sports injuries into physical education teaching to improve students' health awareness and skills has become an urgent problem. At present, scholars at home and abroad have conducted some studies on the prevention and treatment of sports injuries and physical education<sup>[2]</sup>. For example, some studies have shown that the occurrence of sports injuries can be effectively prevented by strengthening strength training, performing proper warm-up and stretching, and using sports equipment correctly. In addition, some researchers have explored how to incorporate the prevention and treatment of sports injuries in physical education teaching and made some valuable suggestions<sup>[3]</sup>. This study aims to introduce the OBE concept into the creative classroom teaching of sports injury and prevention, and to improve students' awareness and prevention of sports injury by designing course content and teaching methods that suit students' characteristics and needs. This will help to reduce students' injury risk in sports and improve their health and quality of life. Meanwhile, this study will also provide new ideas and methods for the teaching reform of other disciplines, and promote the in-depth research and application of the OBE concept in education<sup>[4]</sup>.

## 2. OBE conceptualization

The OBE education concept is an educational model based on learning outputs, which was initially applied to the basic education reform in the United States and Australia. American scholar Spadey first began to study the OBE concept, which is learning output education, the ultimate goal of cultivation is the effect of student learning, and through the principle of reverse design to design the content of student learning, and in the process of teaching and learning based on the actual effect of student learning to improve the teaching program, so that the students can achieve success<sup>[5]</sup>. In fact, the OBE philosophy requires that teachers and students aim for the end result of learning. It requires that

teachers and students aim for the ultimate outcome of learning, that the content of the students' education be designed in the reverse direction, taking into account the realities of the educational process and the pedagogical methods chosen by the teacher, that the students' achievement be based on the different circumstances of each student and the actual conditions of the teaching and learning process, that the students be given the same opportunities to learn, and that the program of teaching and learning be improved accordingly.

The basic principle of the OBE philosophy is that all learners can be successful. The logical structure of this philosophy is based on the fact that every student is talented, that learning should be based on cooperation rather than competition, and that the school should be an educational institution that enables every student to find ways to be successful, and so the OBE philosophy has been widely used in research and reform of classroom teaching and learning<sup>[6]</sup>.

To a certain extent, OBE teaching concept has transformed the traditional thinking of curriculum teaching design, and the proposal of OBE makes us think about the whole curriculum training system in reverse, which used to emphasize only "teaching" in teaching and training, but this advanced concept of OBE starts from the training objectives, and thinks about what kind of education and teaching links are needed in reverse. The advanced concept of OBE starts from the cultivation goal to think about and determine what kind of education and teaching links are needed in reverse. At the same time, increasing the flexibility of the teaching process also increases the challenge for schools, which need to provide more space and opportunities for students to learn independently. In the context of diversified and rich opportunities, all students have higher expectations of success<sup>[7]</sup>. Based on the concept of OBE education, how to design effective curriculum and teaching practice has become a key issue for engineering colleges and universities to think about. Teachers' lectures and students' self-directed learning will be subjected to a certain degree of transformation, and students in the process of cultivation have different understandings and learning abilities. Based on the OBE concept, it is necessary to ensure that students have a comprehensive learning program.

Analyzed from the process of cultivation of physical education professionals, physical education teachers in primary and secondary schools should firstly meet the daily requirements of physical education teaching, have good ability of explaining and demonstrating sports techniques, competition training and helping to promote the physical and mental development of students, and also meet the basic ability of sports research. By integrating the OBE concept into the cultivation program of physical education professionals and combining it with the professional ethics of physical education teachers, a new mechanism for cultivating physical education talents can be established, which can better meet the task of cultivating morality and educating people<sup>[8]</sup>.

### **3. Current status of classroom teaching of sports injury and prevention**

"Sports Injury Prevention and Control Technology" is a basic compulsory course for senior sports service and management majors. After graduation, students majoring in sports service and management are mainly engaged in social sports work such as social sports guidance, sports industry operation and management, and especially should have certain fitness consulting and guidance ability<sup>[9]</sup>. Therefore, it is necessary to have a certain understanding of scientific exercise and prevention of sports injury and disease in their work. The course "Sports Injury Prevention and Control Technology" is an applied science that studies physical fitness and health, as well as health care rules and measures in sports, in which the teaching content of sports injuries accounts for a large proportion, and this part of the content is also the part that is more difficult for students to learn. In traditional teaching, a large number of pictures and slides need to be applied, while the clinical manifestations and pathological changes of different diseases need to be imagined by students. In order to innovate the course of "Sports Injury Prevention and Control Technology", this paper firstly analyzes the current classroom situation.

The teaching of "Sports Injury Prevention and Control Technology" is based on projects and cases, and the quality of the selected projects and cases is directly related to the realization of the teaching objectives. Nowadays, higher vocational colleges and universities have not carried out the work of teachers' preparation of sports injury teaching projects and cases according to the teaching needs<sup>[10]</sup>. Project-based teaching should be based on the teaching objectives, selecting targeted cases, or designing comprehensive projects, through the simulation of project cases, to create a more similar to the actual practice environment has become the best choice for teaching. The projects and cases used by teachers in the process of teaching come from the injury cases that teachers come into contact with and the injury cases produced by students themselves. Generally speaking, the current classroom

teaching of "Sports Injury Prevention and Control Techniques" has clear teaching objectives, rich teaching content, diverse teaching methods, and strengthened practical links. In general, the current classroom teaching of "Sports Injury and Prevention Technology" has the advantages of clear teaching objectives, rich teaching contents, diversified teaching methods, strengthened practical aspects, and high students' participation. However, there are still some areas for improvement<sup>[11]</sup>. For example, the sources of projects and cases can be further expanded, and more cases and practical projects related to real life can be introduced to help students better understand and apply what they have learned. At the same time, some practical activities that are closer to real work scenarios can be considered to better adapt students to future career development needs.

#### 4. Teaching Strategies for the Creative Classroom in Sports Injury and Prevention

##### 4.1. Delineation of course modules

According to the requirements of the course "Sports Injury Prevention and Control Technology" for sports service and management majors, teachers should carefully reform the traditional sports injury course to make it closer to the actual work situation, and can divide the course into three modules: human body examination, medical supervision and health care massage, of which human body examination includes electrocardiogram experiment, Harvard step experiment, five lung capacity experiment; Medical supervision includes bandaging, hemostasis, treatment of fracture and dislocation with temporary fixation, adult CPR; Health care massage includes acupressure, sports massage, therapeutic massage; The specific content of the teaching module is shown in Table 1.<sup>[12]</sup>

Table 1: Specific content of teaching modules

Module name	Specific content
Human body examination	Electrocardiogram experiment, Harvard step experiment, Five lung capacity experiment
Medical Supervision	Bandaging, hemostasis, treatment of fracture and dislocation with temporary fixation, adult CPR
Health Care Massage	Acupressure, sports massage, therapeutic massage

##### 4.2. Organizing classroom instruction

Teaching with OBE concept breaks through the traditional form of teaching organization, giving full play to the respective advantages of on-campus teachers and off-campus experts, combining project teaching, case study and work practice, and making full use of teaching methods such as simulation and role-playing to guide the students to actively participate, actively speak and fully reflect on<sup>[13]</sup>. On-campus teachers communicate the requirements of the course "Sports Injury Prevention and Control Technology" and the students' learning situation with off-campus experts before teaching, discuss and prepare the project cases, determine the outline of the classroom teaching, and organize the classroom teaching together, so that the theoretical knowledge can be combined with the work practice, and the students' enthusiasm for learning can be better aroused.

For example, the classroom teaching of the lesson "First aid for respiratory arrest" can be arranged as follows.

1) Problem introduction and analysis. A video was used to reproduce the scene of cardiac and respiratory arrest during a marathon, introducing the question: What injury occurred to the athlete?

Teacher's guide: How to determine respiratory arrest after fainting?

The teacher guides the students to the following conclusions: (1) site safety assessment to confirm that the site environment is safe and that self-protection measures are in place; (2) determining the response to respiratory cardiac arrest, which is characterized by loss of consciousness, pallor, and respiratory arrest; and (3) learning the 4 sentences to call for help correctly.

Summarize the knowledge points: The main signs of respiratory arrest are loss of consciousness, pallor, and respiratory arrest. The corresponding skill points are to assess the safety of the surrounding environment, to make judgment on the respiratory arrest casualty, and to be able to call for help correctly and effectively<sup>[14]</sup>.

The external experts select suitable project materials from sports injuries in sports clubs and

hospitals, and then the in-school teachers discuss with the external experts according to the teaching objectives, refine the knowledge points, and re-process the project cases. The project cases used in the classroom should meet the following conditions: real cases of sports injuries; consideration of students' career development; and basic skills needed in the workplace.

After the students have mastered the basic knowledge and skill points, it is very important for them to integrate the basic knowledge and skills with the work reality and master them proficiently. Students will be grouped together and practiced within the group, using the principles and methods of treatment learned to deal with the casualty of respiratory arrest, practicing one by one, and correcting and evaluating errors within the group. In this process, the school teachers and outside experts tour guidance. The main points of their skill instruction are the operation steps and essentials of CPR.

#### **4.3. Promote school-enterprise cooperation**

The full-time teachers in the school can keep some contact with the enterprises outside the school through the cooperative teaching by writing the sports injury teaching materials suitable for the specialty applicable with the experts outside the school<sup>[15]</sup>. At the same time, it is convenient to build the practical training base outside the school. Experts from outside the school enter the school to teach, which can lay the foundation for enterprises to select suitable graduates and, at the same time, achieve the purpose of publicizing the enterprises to a certain extent. Enterprises can also utilize the school's advantages in talent and intelligence to conduct employee training for enterprises. Teachers can utilize their own advantages in research level to participate in the actual work of the enterprise, serve the enterprise and create profits. Joint participation in the teaching process at the same time, but also to strengthen the communication between the school teachers and experts outside the school, timely understanding of the type of talent needed by enterprises and job requirements, more optimized talent training programs. Therefore, after the formation of the foundation of school-enterprise cooperation, the school and the enterprise to build off-campus training bases will achieve win-win results.

## **5. Conclusion**

Under the guidance of the OBE concept, the strategic study of creative classroom teaching of sports injury and prevention has far-reaching significance. By designing curriculum content and teaching methods that suit students' characteristics and needs, this study aims to improve students' awareness and skills in sports injury prevention and control in order to achieve a healthier and more scientific lifestyle. At the same time, this study will also provide new ideas and methods for the teaching reform of other disciplines and promote the in-depth research and application of the OBE concept in the education sector.

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