Building the Training System of Physical Education Innovation Ability in Higher Vocational Colleges Based on Computer Information Technology

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Abstract. The rapid development of computer information technology is promoting the progress of all aspects of society, sports and physical education are not outside, but is using computer information technology to gradually innovate and walk with the times. In this paper, the author expounds the demand of the development of physical education for the application of computer technology and the importance of the establishment of the innovation system of physical education development to society, education, health and individual.

Keywords: Computer, Information Technology, Physical Education, Innovation Development

1. Introduction

It is very important for higher vocational colleges to build a system for cultivating students' innovative ability and establish a long-term training mechanism. It is very important to actively promote the development of innovative activities of higher vocational students in all directions, to correctly understand the position of innovation cultivation in higher vocational education, to seek effective ways to teach students, to improve the practical and innovative ability of higher vocational students, to train high-quality talents to meet the needs of society, and to improve the scientific and technological competitiveness of our country. As the key position of physical education colleges, teachers should constantly learn, accept new technologies and methods, arm their minds with information technology, constantly update their knowledge structure and teaching concepts, and innovate constantly in teaching, so that higher vocational physical education can have more practical significance. Through many years of physical education, I have summed up and formulated a set of measures to effectively integrate information technology and physical education methods, apply information technology to all aspects of talent training, and promote the cultivation of students' innovative ability in our school to a
high level.

2. Requirements for computer technology in the development of physical education

Sports have also been rapid development, and the challenge to physical education, physical education innovation is more important[1]. At the same time, as a people-oriented, aggressive, fair and just, rule-oriented, unity and fraternity and healthy nature of the cause, sports for the contemporary society has become an indispensable national fitness activities, not only let sports become a physical exercise, but also let sports become an educational means, a modern way of life, a spiritual carrier. In the face of the developing society, the innovation of physical education in higher vocational colleges is undoubtedly a strong agent in the current society. Sports has become an indispensable social factor in the process of building a harmonious socialist society, so it plays the unique function of physical education, puts people first, uses information technology, takes all-round development as the core, guides everyone to love sports, and makes college sports more innovative in different ways of education. The relationship between innovation ability of physical education and traditional physical education and computer information technology is shown in Figure 1[2].

![Figure 1. Ways to cultivate the innovation ability of physical education](image)

3. The importance of innovation ability of physical education teaching in colleges

3.1. The demand of sports talents in contemporary society

Creating education is an important pillar to develop human resources, improve the quality of labor force, and maintain high labor productivity and competitiveness. The 21st century society is full of competitive[3]. The most prominent feature of contemporary society is the competition of talents. Only the talents with innovative ability can conform to the trend of social development and remain invincible in the competition. As a knowledge-based group with active thinking, they will pay more interest in sports.

3.2. Lay the foundation for lifelong physical activity

The development demand of today's society has shaped the concept of lifelong education, while the idea of lifelong physical education comes from the concept of lifelong education and the cultural concept that pays attention to the individual. Sport is an indispensable part of life education and
healthy and happy life. And higher vocational college physical education is the last stage of school physical education, from the point of view of realizing lifelong physical education and it also shows the urgency of strengthening the cultivation of college students' innovative ability[4]. How to carry out sports for life requires the school physical education teaching stage, pay attention to cultivate the innovative consciousness of college students, pay attention to cultivate students into a generation of new people who can creatively solve practical sports problems in different environments, and lay a good foundation for future lifelong physical exercise.

4. The basic idea of constructing the innovation ability system of physical education in higher vocational colleges

4.1. Updating educational ideas and concepts

In the coming era of knowledge economy, innovation ability will become the key to promote social and economic development and progress, and it is the highest embodiment of human factors in productive forces. It is urgent to renew educational ideas and concepts, renew educational models, and fully realize the special mission of school physical education in innovative education. In the guiding ideology of teaching, we should link physical education teaching with cultivating students' ability of independent learning, independent exercise and developing independent thinking. Turn teaching activities into the process of activating students' thinking, enlightening students' thinking and guiding students' innovation[5].

4.2. Rational use of innovative teaching methods in physical education teaching

In the process of cultivating students' innovative consciousness and ability in physical education teaching in higher vocational colleges, effective teaching methods and methods are the foundation of cultivating students' innovative ability[6]. We should make full use of effective means to stimulate students' interest in learning and vigorously create an innovative environment. Let students actively think in the teaching process as to cultivate students' innovative consciousness and ability.

5. Physical education teaching model based on computing information technology

5.1. Task-driven teaching model based on computing technology

In the task-driven teaching mode based on computational thinking, teachers and students teach and learn around tasks. So that students can explore the ideas of problem-solving in communication, and carry out results display and evaluation, exchange experiences, consolidate existing knowledge and expand new knowledge. Physical education students are the most indispensable is vitality, lack of effective guidance of teachers. Therefore, in task-driven teaching practice, teachers can design tasks with strong pertinence. For example, Excel software teaching, task design is a "school sports meeting achievement management system" related to sports major, which requires students to make full use of the basic functions of Excel to solve complex data and information management problems in reality. Cultivate students' awareness, thinking and methods of solving practical problems with computer thinking mode[7].

5.2. Teaching model of physical education case based on computational information technology
When selecting and organizing cases based on computational thinking, we should proceed from the simple principle so that students can easily understand the basic theories and methods of more abstract computational thinking which help enlighten students' ability to analyze and solve problems, so as to achieve the purpose of computational thinking training, as shown in Figure 2.

![Diagram](image)

**Figure 2.** Application of Computer Information Technology in the Teaching Model of Physical Education Case

5.3. **Online sports learning model based on computing information technology**

How to use computer network to acquire knowledge and solve problems is one of the effective means to cultivate students' information literacy and thinking ability. The network autonomous learning model based on computational thinking can also enable students to collect network resources independently while cultivating their thinking ability and choose the learning model suitable themselves, so that students can find and solve problems in the network environment.

5.4. **Flipping classroom teaching model based on computational thinking**

Flipping classroom teaching mode is one of the teaching modes discussed at home and abroad in recent two years. The so-called flip is the reconstruction of the original teaching process, the content originally taught in the classroom, before the classroom teaching, the teacher creates the teaching video, together with the related learning materials, the students watch the study at home or after class through the network, return to the classroom teachers and students face-to-face interaction and complete the teaching process of homework.

6. **Conclusion**

Based on many years of teaching experience, the author has made a preliminary study on various teaching methods based on computational thinking, but the cultivation of computational thinking is a long-term and systematic process. How to further reform the teaching mode, improve the teaching process, how to combine computational thinking more closely with physical education, still need to be further explored and tried, in order to obtain better training results.

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