

Research on Teaching Innovation and Reform of Sports Anatomy for Sports Majors

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Abstract: Sports Anatomy is a professional basic course, as well as an applied pilot course of physical education. Its knowledge points are “multiple, complex, and chaotic”. Its theory is Abstract: It is prone to produce weariness and fatigue in the actual learning process. The teaching is difficult and the effect is poor. This paper tries to promote the reform and innovation of curriculum teaching by innovating the concepts and ideas of classroom teaching, optimizing teaching content, trying new teaching models, innovating teaching methods, and changing the assessment and evaluation mechanism. It discusses the morphology teaching concept of “student-centered”, and the teaching content is refined into several teaching fragments to construct a teaching content system. It also discusses a new teaching form which uses manual activities to strengthen muscle structure and movement instead of the traditional form of teaching, observation, and experiment. Moreover, the paper analyzes the synchronous and integrated teaching mode of theory, experiment and practice, and shows the new homework results of students' drawing atlas and TikTok videos. Through the above research, this paper summarizes a series of theories and experimental methods for cultivating students' innovative ability, improving students' practical ability and comprehensive quality, and enhancing the quality of classroom teaching.

1. Introduction

Sports Anatomy is a professional basic course and applied pilot course of physical education, which belongs to the science of sports human body. It is a subject that studies the influence of exercise on human body structure and growth and development on the basis of human anatomy, and explores the laws of human mechanical motion and its relationship with sports technology [1]. By attending the course, students can master the morphological structure, growth and development and main functions of various organs, as well as the influence and significance of physical exercise on the structure of the human body. They can also understand the anatomical laws of human displacement movement in sports and apply the above theoretical knowledge to sports work. Only by mastering the knowledge of sports anatomy, understanding body structure, and strengthening the connection between theoretical knowledge and sports practice, can they better understand the role and value of many training methods, and achieve “not only know it, but also know how it comes”.

2. Current Teaching Situation and Pain Spots of Sports Anatomy

2.1 The Teaching Object Has Insufficient Knowledge of Human Body

Sports Anatomy is taught to freshmen in sports majors. Students have certain athletic ability, but generally they are prone to tiredness during sports theory courses. It is difficult for them to concentrate in theoretical classes and show a good mental state. Theory courses are not attractive enough for students. At the same time, the reserve of theoretical knowledge related to the sports human body is relatively insufficient. Although they have strong curiosity about the course, the professional knowledge is still relatively unfamiliar. In this case, they can't quickly integrate the complex human body structure with technical anatomy analysis, and complicated knowledge points. There are still difficulties in using sports anatomy to analyze sports practice. Research shows that students believe that the influencing factors of theory courses of their majors are: teaching methods,

teaching styles, personal motivation, test pressure, teacher personalities, etc. Among them, teaching methods and teaching styles are the main factors affecting students' learning attitude. The teaching effect is improved. The main measures of improving teaching effect are the transformation of teachers' teaching concepts, teaching styles and teaching methods.

2.2 Single Teaching Methods, Traditional and Modern Teaching Methods Cannot Be Combined Scientifically

Sports Anatomy belongs to the category of morphology and is also an applied subject. Intuitive teaching is very important. Due to the characteristics of the course, the description of technical terms and professional structures is various. The knowledge is cumbersome, abstract and difficult to remember, making the content of this course difficult for students to master [2]. In recent years, with the development of science and technology and the rapid popularization of the Internet, multimedia teaching has replaced the traditional atlas in the classroom teaching process. Although the teaching methods have been updated, it is still difficult to activate the classroom atmosphere and increase student participation in the classroom. It often makes students rely on rote memorization. They gradually lose their enthusiasm and interest in learning, and become bored. In addition, because students lack the time for active thinking in the classroom, it is not conducive to improving students' comprehensive quality and innovative ability. If the traditional teaching modes and modern teaching modes are not combined scientifically to change the current teaching modes, students will lose their interest in the subject, which will be detrimental to the construction of the knowledge structure system and the development of the subject.

2.3 The Teaching Content is Multiple and Complex, and the Sports Characteristics Are Not Outstanding

Sports Anatomy teaches the basic theories of normal sports morphology, growth and development rules, and the influence of appropriate physical exercise on sports morphology [3]. However, students lack concrete and practical operation ability in basic skills and abilities analyzing sports techniques, developing physical fitness, and improving physical health. The reason is that there is no organic combination of anatomy theory and technical skills learning.

2.4 Ignore the Role of Process Evaluation in Teaching, and the Evaluation is Unreasonable

In the teaching model of theoretical courses in physical education, teaching evaluation follows the traditional written test form, with very few process evaluations. Most of the evaluation use the written test of the final exam to assess the comprehensive results of students' learning. This kind of single evaluation mode ignores the process and stages of students' learning. It more reflects the students' mastery of the basic knowledge of anatomy, while relatively neglecting the assessment of students' ability to use sports anatomy knowledge to analyze sports practice problems [4]. At the same time, theoretical teachers cannot obtain feedback from students during the teaching process, and cannot adjust their teaching methods, teaching content and requirements in time. Therefore, it is important to increase the proportion of process assessment, increase stage evaluation, and unit target evaluation in the teaching process.

3. Innovative Teaching Ideas in Sports Anatomy

Classroom teaching is the main channel to improve teaching quality. The cultivation of students' innovative spirit is the core value of teaching. The proposal of Healthy China puts forward higher requirements for physical education and scientific research [5]. The core position of Sports Anatomy in physical education determines its teaching direction, teaching objectives, teaching content, teaching methods, and evaluation methods, etc., which has been transformed from the traditional way of purely imparting specific knowledge to the way aiming at training students' practical application ability, self-development ability and innovation ability. Classroom teaching innovation is imperative. In the teaching process, it is necessary to summarize and explore innovative concepts and ideas in classroom teaching. Through enlightening and discussion-based

teaching, combined with the use of various media such as live observation, specimen models, and computer simulations, the teaching has to reflect the idea of “student are the main body” and the education concept of “cultivating students' comprehensive quality as the core” [6]. Teaching should be able to guide students to use their brains, to combine the idea of seeking common ground with the idea of seeking differences, to stimulate active thinking about problems, and to arouse students' desire for learning and interest in exploring problems.

4. Innovative Measures of Sports Anatomy Teaching

In order to fully implement the spirit of the National Undergraduate Education Work Conference in the New Era, focus on teaching innovation, and comprehensively improve the quality of teaching, on the basis of talent training programs and academic analysis, it has become an irresistible trend to closely follow the curriculum teaching goals according to the existing teaching conditions of the school, increase the innovative teaching strength of Sports Anatomy, continuously innovate teaching methods and approaches, and use structured teaching and whole-process assessment methods.

4.1 Construct Scientific Teaching Content with Clear Teaching Goals

With the rapid development of science and technology, new scientific and technological achievements continue to innovate, and the Internet intersects and penetrates each other among various disciplines [7]. Sports Anatomy should be based on theoretical knowledge and focus on practical applications. In teaching, the functions and goals of each content in the curriculum system should be clarified, and the hierarchical relationship between the content of the curriculum should be clarified [8]. Classroom teaching should choose typical sports anatomy problems in modern sports events according to needs, replace outdated sports examples in textbooks, reform the curriculum system and content, and implement the integration of the curriculum structure. After studying, students should master basic theories. Teachers should highlight the practicality, comprehensiveness, and advancement of professional knowledge and construct reasonable teaching content. They should make sure students understand the rules of human movement and the anatomical basis of physical exercise during the exercise in class. They should help students “not only know it, but also know how it comes”

4.2 Adopt Teaching Modes of “Pbl” and “Flipped Classroom”

According to the teaching goals and teaching content, teachers ask questions, organize students to teach themselves, organize group or class discussion, mark after class and recorded in students' usual performance. Meanwhile, teachers should maximize the training of students' ability to collect information from the Internet and the effect of learning and participation, so as to exercise and cultivate students' ability to think independently, accurately express, analyze and solve practical problems in sports. Students use the online course platform to learn independently. In classroom teaching, teachers intensively talk about important difficulties and doubts. Students summarize with teachers and deepen their understanding. Teachers can use different forms of evaluation to evaluate whether the teaching results have been achieved.

4.3 Organize Teaching Content with Sports Practice and Life as the Carrier

It is important to clarify the overall goal of Sports Anatomy before implementing teaching, and then carefully study the teaching materials according to the training goals of sports majors, find out knowledge that doesn't meet the major characteristics, and revise and arrange the teaching plan and syllabus that meet the teaching needs. The basic principle of determining the teaching content is to conform to the knowledge of anatomy required for sports practice, to solve sports practice and life problems, and to conform to the talent training goals and specifications. Teachers should determine the teaching objectives and screen the teaching content according to the professional syllabus. Classroom teaching should combine problem navigation with practical understanding. Teaching content should be selected based on sports practice and life as the carrier. Through participating in sports practice, students can experience the sense of success or failure caused by knowledge defects,

review life experience and use the sense of accomplishment of knowledge to deepen their understanding of their majors.

4.4 Exploring the Teaching Organization Form Combining Hierarchical Teaching and Cooperative Teaching

The construction process of the “active, exploring, and cooperative” curriculum teaching system: 1. Teachers study the subject structure of Sports Anatomy, establish the starting point of teaching and set up chapters and scenarios of teaching logic; 2. Teachers and students work together and determine the teaching goals; 3. Extracurricular data collection, social surveys, hands-on experiments, group cooperative research and other methods are used to organize data; 4. Classroom argument presentation, questioning, discussion and debate, self-study-based discussion teaching, case-based teaching should be used. Students will conduct group discussions in groups based on the materials consulted before class, refer to teaching materials, atlas, specimens, models and other teaching tools.

4.5 Diversified and Innovative Teaching Methods

Adopting network teaching platforms such as “Yinghua Online” and “Yuketang”. On the online teaching platforms, students are provided with the syllabus, learning requirements, all learning courseware, experimental instructions, reference materials, and homework for students, and link resource websites related to Sports Anatomy to online course websites, which is beneficial to students to find the relevant knowledge needed in a short time, and provide teachers with lesson preparation resources such as a material library and a test question library.

4.6 Process Evaluation and Feedback

The evaluation and assessment methods of student performance focus more on the evaluation in the learning process. Usual assessment is strengthened. The usual score accounts for 60%, and the final score accounts for 40%. The usual score includes the application of oral examination of sports anatomy knowledge in mid-term practice, the collection of reference materials, classroom questions, discussions, homework and other forms. Before innovation and reform, homework for the whole class was in the form of test, and plagiarism was common. Now, it is a one-on-one oral test between teachers and students for content assessment. Everyone needs to touch, look for the location of bones, muscles, and internal organs in human body. It greatly improves Students’ interest and self-learning enthusiasm.

5. Effectiveness and Achievements of Teaching Innovation in Sports Anatomy

5.1 Innovate Ideas and Improve Teaching Quality

On the basis of following the education and teaching conventions, innovative ideas are continually explored. A morphological teaching concept centered on courses, students, problems, practices, and disciplines is formed, with the main purpose of cultivating students' self-development ability and innovation ability. Thinking determines the way out. The teaching gets high evaluation from students and the peer. There are even senior students in classroom teaching.

5.2 Refine Teaching Fragments to Achieve Knowledge Superposition

The teaching content is optimized according to the professional characteristics, and it is divided into several teaching fragments for students to learn online. For teachers, they can further clarify the key points and difficulties of teaching, and clarify the thinking of teaching, so as to overcome the problems of inadequate teaching and inadequate training, and improve the efficiency of classroom teaching. For students, learning is not limited by time and place, and the amount of information received each time is not large, and it is easier to remember.

5.3 Optimize the Teaching Mode and Improve Teaching Efficiency

Teaching of theory and experiment are no longer separated. Teaching is directly conducted in the

laboratory with students in the form of groups. An integrated teaching mode with flexible use of specimens, models, APP and multimedia are used. The combination of theory and practice is strengthened. Students can understand theory in the process of practice, and they practice with theoretical knowledge as the guide. For example, the anatomical analysis of sports movements requires 2 theoretical hours and 4 practical hours according to the traditional mode. Now, it only takes 4 hours according to the integrated mode, which makes it easier for teachers to teach and students to learn more easily.

5.4 Hand-Drawn and Self-Made Models to Mobilize Learning Interest

Human body is complex. The knowledge about human body is difficult to memorize. The teaching is also limited by teaching equipment, which causes trouble for students to learn. After the teaching innovation and reform, when learning bones, students can draw bone diagrams and mark each structure to deepen their memory. When learning muscles, they can use clay to complete the muscle structure on the skeleton, make a self-made muscle model, and master muscle structure and movement during class. The boring anatomy class is transformed into a manual class. Students actively participate in the production process and master the structure and movement of the muscles. The learning effect is better.

5.5 Create Short Sports Videos to Enrich Evaluation Content

The shape and structure of the human body and the signs of the body surface are essential for understanding human motion. Students form an atlas by drawing human bones, muscles, body surface signs, internal organs, etc., and shoot completed joint exercises and muscle training into short videos. When they appreciate their own works, browsing their moment, and spending time on Tik Tok, they will invisibly deepen their understanding of related knowledge. Incorporating their works into the evaluation system, students are more motivated to learn. The learning effect is better. It truly realizes the combination of process evaluation and summative evaluation.

6. Conclusion

In summary, teaching innovation should be paid attention to. Teachers of Sports Anatomy should innovate in teaching directions such as focusing on enlightenment, exploration, practice. Inspiring students to learn actively should be a prerequisite for inquiry and cooperative learning. Emphasis on the transformation of inquiry learning from passive learning to active inquiry, aims at allowing students to experience the inquiry process personally, so that they can gain insights and deep understanding in deep thinking and exchanges and discussions. Students should pay attention to the innovation of learning methods such as thinking, operating, and doubting. Only by achieving learning from each other and achieving the ideal state of consensus, sharing and progress together, can schools promote the innovation of Sports Anatomy teaching and improve the quality of teaching to meet the needs of training applied sports talents.

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