

Research on Personalized Mathematics Teaching Practice for High School Physical Education Specialists in Mathematics

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Abstract: With the increasing emphasis on personalized education and differentiated teaching methods, research on personalized mathematics teaching for high school physical education specialists in math has gained significance. Tailoring math instruction to suit the diverse learning styles and needs of students can lead to improved performance and engagement in the subject. This research aims to explore effective strategies and practices for implementing personalized mathematics teaching in the context of high school physical education specialists.

Keywords: high school; Sports talents; Sports training

High school physical education specialists play a unique role in students' academic development, particularly in the field of mathematics. Understanding the specific challenges and opportunities faced by these specialists in teaching math can contribute to the development of personalized teaching approaches that cater to the individual needs of students. Research on personalized mathematics teaching practice for high school physical education specialists in math is essential to enhance the quality of math education and promote student success in this critical subject.

1.The Problems of Personalized Mathematics Teaching for High School Physical Education Specialists

(1) Unclear teaching objectives

Most high school physical education students do not attach great importance to mathematics and instead focus on physical education training. Therefore, they do not have clear learning goals, their mathematical foundation is relatively weak, and their grades are generally in the middle or lower level. At the same time, in the teaching process, some teachers did not conduct stratified teaching for students, and the teaching objectives were not clear. Teachers are accustomed to a "one size fits all" approach, which not only fails to improve teaching efficiency, but also leads to students with good foundations not being able to eat enough, and students with poor foundations not being able to eat enough. Without clear teaching objectives, teachers are unable to develop reasonable teaching plans, leading to difficulties in implementing personalized mathematics teaching.

(2) Unreasonable teaching content

Sports majors often have differences in cognitive abilities and mathematical learning habits in the process of learning mathematics. Therefore, teachers should choose teaching content and methods that are in line with the actual situation of students. Due to significant differences in learning abilities and methods between sports talents and ordinary students, their ability to accept mathematical knowledge is poor. The general teaching content and methods do not match their actual learning situation, which affects their learning effectiveness. In addition, in terms of curriculum arrangement, some high school physical education students with special talents have less time for mathematics teaching, which is extremely detrimental to their mastery of mathematical knowledge.

(3) Single teaching method

At present, some high school physical education majors still rely mainly on traditional teaching methods in mathematics teaching. Teachers mostly use lecture and question and answer methods for classroom teaching. This traditional teaching model is difficult to stimulate students' interest in learning, and students cannot absorb the knowledge they have learned well. Traditional teaching methods do not take into account the actual situation of students, and cannot effectively mobilize their enthusiasm and initiative in learning mathematics. In order to

improve the efficiency of personalized mathematics learning for high school sports talents, teachers need to change traditional teaching concepts, fully combine the actual situation of sports talents to carry out personalized mathematics teaching, and continuously improve teaching methods.

(4) Incomplete teaching evaluation

Due to the lack of a specific evaluation system in personalized mathematics teaching for high school physical education talents, teachers are unable to comprehensively and objectively evaluate the learning situation of students, and their grasp of students' learning situation is not good. The lack of reasonable evaluation of students' learning attitudes, learning outcomes, and learning processes has affected their personalized development in mathematics. In high school physical education mathematics teaching, teachers cannot develop personalized teaching plans based on the actual situation of students, resulting in a lack of targeted and effective teaching plans. In addition, when teachers formulate teaching plans, they overlook the evaluation and feedback of the learning situation of sports talents, leading to a lack of accurate understanding of themselves in the learning process. This is not conducive to teachers providing personalized teaching based on the actual situation of students, enabling them to achieve comprehensive development.

2. Personalized Mathematics Teaching Strategies for High School Physical Education Specialists

(1) Help sports talents establish correct learning concepts

In the teaching process, teachers should help physical education students master more scientific ways of learning mathematics. In daily life, due to the relatively limited time for physical education students to study cultural courses, teachers should pay special attention to teaching methods. For example, before class, they should be prepared to determine their learning objectives and bring problems into the classroom; Conduct self-examination in the classroom, identify shortcomings, learn to think for yourself, or ask the teacher; During the training break, teachers can also actively provide them with tutoring. Sports students are not students with learning difficulties, most of them are very intelligent. Sports students have better physical fitness than ordinary students. If they know how to learn and engage in scientific learning, their grades will inevitably improve, and they will become pillars of the country with comprehensive humanistic literacy.

(2) Putting students first and emphasizing the selection of textbooks

Through the analysis of the mathematics learning process of sports talents, we can see that their original middle school mathematics knowledge has had a significant impact on their high school learning. So, before the classroom starts, teachers should have a preliminary understanding of each student's mathematical abilities, evaluate and analyze them, and pay attention to the mathematical connection between middle and high school. For sports talents, teachers can make necessary additions or deletions to the textbooks according to their characteristics, make reasonable adjustments, and formulate specific and clear learning goals for them according to the provisions of the exam outline and training objectives. At the same time, it is necessary to analyze the situation of students, select teaching methods, and develop curriculum plans, so that students can solidify their foundation and lay a solid foundation in the learning process.

(3) Infiltrate emotional education and strengthen students' learning motivation

1) Emphasize individual self-esteem and respect the inner experiences of sports talents

The poor math performance of sports talents is not only limited by intellectual factors, but also by other non intellectual factors. Teachers should eliminate the constraints of non intellectual factors on students while fully respecting their will. On the premise of fully considering the individual development of students, it is also necessary to consider their autonomy and independence, create a warm and safe learning and living environment for them, give them the opportunity to express themselves, and make them feel accepted and respected by the group. This kind of self-worth can bring students more joy in learning. The emphasis on self-esteem and the improvement of personal confidence complement each other.

2) *Increase the emphasis on sports talents and enhance students' confidence in mathematics*

High school teaching time is tight and tasks are heavy, and teachers pay relatively less attention to students with learning difficulties. But if teachers can give more affirmation and encouragement to students, it will be beneficial for cultivating their correct values. In the learning process of sports talents, teachers should not only provide knowledge teaching for them, but also support and motivate their thinking.

In conclusion, research on personalized mathematics teaching practice for high school physical education specialists in math serves as a crucial step towards improving math education outcomes and fostering student growth. By tailoring teaching strategies to meet the diverse needs of students and considering the unique context of physical education specialists, educators can create a more inclusive and effective learning environment for all students. This research opens up possibilities for innovation and advancement in math education, ultimately benefiting both students and educators in the pursuit of academic excellence.

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