

Research on the application of zone of proximal development theory in school physical education teaching in China

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Abstract: Based on the "zone of proximal development" theory of educational psychologist levvygotsky, this paper studies the school physical education teaching in China by using the methods of literature and logical analysis. By analyzing the theory and combining with teaching practice, this paper explores how this theory guides physical education teaching and improves the teaching effect of physical education classroom. First of all, this paper expounds and analyzes the connotation of the zone of proximal development theory, and puts forward that teaching should be ahead of development. It analyzes the Enlightenment of this theory on school physical education teaching in China: from two aspects: promoting physical education teachers to update teaching concepts and optimizing teaching content according to the actual level of students.

Keywords: Nearest Development Zone, School physical education, Optimize the path, Scaffold construction

1. Introduction

The theory of the zone of proximal development proposed by Lev Vygotsky has important guiding significance for the development of modern education, and has been widely cited by various disciplines to guide the theory and practice of teaching. In the field of education, many scholars have studied the experiment of precision teaching using the "zone of proximal development" theory and achieved positive results. However, in the field of physical education, this theory overlaps with the concept of modern physical education teaching in many places, and there are few researchers who pay attention to it at present. Based on this research situation, it is necessary to take the recent development zone theory as the starting point to study the connotation of this theory and the mapping of its core thought to our school physical education teaching, in order to enlighten the development of our school physical education teaching.

2. Enlightenment of the theory of the zone of proximal development on School Physical Education Teaching

2.1. Theoretical interpretation of the zone of proximal development theory

The "zone of proximal development" was proposed by Soviet educational psychologist Lev Vygotsky, whose theory emphasizes the influence of culture and society on children's cognitive development^[1]. "Zone of proximal development" refers to "the gap between children's current level and potential development level, and also refers to the gap between children's ability to solve problems independently and their potential ability to solve problems with the help of adults or capable peers^[2] ." Through the elaboration of the concept, it can be understood that "actual level" is the ability that individuals have; The "potential development level" refers to that an individual does not have at present, but has development space. Therefore, the zone of proximal development refers to the potential development space where individuals do not have the ability to complete tasks independently, and the development in this area is called the zone of proximal development.

2.2. The theory of the zone of proximal development plays a positive role in renewing the concept of physical education teaching

In 2018, General Secretary Xi proposed to establish the educational concept of health first, cultivate students' interests, improve their personality, enhance their physique and temper their will. "It gives us the goal of physical education in this period. However, in current teaching, teachers mainly teach practical skills in order to pass the final examination. The purpose of school physical education teaching is to relieve students' learning pressure, learn sports skills, improve physical fitness, cultivate interest and so on. It's not just for learning sports skills and coping with exams. Therefore, changing the teaching concept is also very important in school physical education. We should cultivate morality and improve students' overall quality. This is an important role of school physical education^[3].

Influenced by the traditional feudal thought of "valuing literature over martial arts", sports and other sideline subjects have become marginal disciplines^[4]. PE Teachers' "cramming" teaching is not conducive to stimulating students to actively participate in PE classes. Educators should attach great importance to this phenomenon. Attaching importance to results and neglecting process is the current situation of school physical education teaching in China. Students' reaching the standard is an important basis for schools to evaluate teachers' teaching effect^[5]. Too much emphasis on specialization and competition, and even equate sports training with physical education teaching^[6]. The traditional sports thought of paying attention to sports skills is still deep-rooted, and the modern educational concept of "taking students as the main body and paying attention to their all-round development" has not really been realized. According to the "zone of proximal development" theory, physical education teachers need to change their physical education teaching concepts. Vygotsky believes that "the relationship between teaching and development is unequal". In short, physical education teaching is not certain to promote the development of students' physical and mental health. This is the key problem in contemporary education, that is, the teaching process often ignores students' individual differences, ignores students' "nearest Development Zone", and eventually leads to the lack of grades^[7]. In view of this remarkable phenomenon, the advantage of introducing the theory of "zone of proximal development" into teaching lies in that teachers clarify the students' actual sports level and potential sports ability, and use the principle of "zone of proximal development" to explore students' potential and carry out effective teaching. This is the key to promote students' physical and mental health development. This requires physical education teachers to accurately position themselves and timely innovate teaching ideas.

2.3. Optimize teaching content based on students' "nearest Development Zone"

Vygotsky's view that "teaching should be ahead of students' development" plays an important guiding role in the field of education. First, there are differences in the potential development areas of each student, so teachers should prepare textbooks and students when preparing teaching content, and comprehensively understand students' physical development, quality and skills; Secondly, teaching design should grasp the potential development level of students, not limited to the current level of students, pay attention to the "best teaching period", and design the teaching structure with students' "nearest Development Zone", so as to realize the high-quality cycle of constantly promoting the renewal of students' "nearest development zone"; Finally, the "zone of proximal development" emphasizes that development is achieved in interaction, which is embodied in the mutual growth of teaching and learning between teachers and students, cooperative learning with students, etc.

The "zone of proximal development" theory expounds the relationship between teaching, learning and development, and finds the starting point for establishing a new teaching theoretical framework^[8]. If in physical education teaching, students' learning ability can be divided into realistic level and potential level, and their nearest development area can be determined, then teachers can develop this area of students with goals and focus, so as to achieve twice the result with half the effort.

Vygotsky believes that good education must be ahead of development. When teachers optimize teaching content, they should first establish the teaching concept of "health first"; Second, according to the characteristics of students' physical and mental development, it is suitable for their "nearest Development Zone"; Third, the teaching content should be easy to learn, novel and objective; Finally, we should pay attention to the situation design, which can not only stimulate students' interest in sports learning, but also improve students' sense of self-efficacy, and pay more attention to shaping students' brave and indomitable spiritual quality and sports humanistic feelings.

The theory of "zone of proximal development" has changed people's cognition of the relationship between teaching and student development^[9]. The important work of promoting modern education and

building a powerful country in education and sports is to achieve morality, cultivate people and improve the overall quality of students, which is an important work of school sports^[10]. School physical education plays an important role in improving students' physique and is the basis of national physical education. Paying attention to the recent physical condition of students in teaching will have a better effect on students' physical education, which is just in line with the concept of understanding students' practical level in the "zone of proximal development" theory.

3. Specific application of school physical education in China from the perspective of zone of proximal development theory

Vygotsky always insists on the leading role of teachers in physical education teaching. "Teaching precedes development" means that students' behavior that is about to mature should be predicted in teaching^[11]. Secondly, in school physical education, teachers account for a large proportion of the factors that affect the quality of teaching. Fully understand the learning situation, including students' sports knowledge and skill structure, so as to achieve targeted teaching. The most fundamental basis for teachers to conduct teaching and design teaching content is to take students' existing knowledge and skill structure as the basis^[12]. In order to guide, motivate and help students' all-round development in teaching, teachers need to play two roles of "promoter" and "helper"^[13]. Based on the principle of "zone of proximal development", the specific application of school physical education teaching will be carried out from the following aspects.

3.1. Build a teaching scaffold by giving good guidance

The term "scaffold" comes from the construction industry, and this theory comes from the "Recent Development Zone". That is, teachers should fully understand the situation of students and build a suitable learning "support" for students according to the basis of students, so that students can learn effectively with the help of this "support"; Once students master the knowledge of "scaffolding", they can remove this "scaffold" and establish a new "scaffold"^[14]. The "zone of proximal development" theory is the theoretical basis for the use of scaffolding, and its role is to help students cross the "zone of proximal development" in teaching^[15]. In the process of teaching, students can better master their learning goals and break through themselves by building scaffolding that adapts to the current level of students. Attach importance to the construction of "scaffolding" and promote the transformation of students' "current level" to "potential development area"^[16].

Scaffolds are divided into two types, interactive and tool type. Interactive scaffolding mainly includes the following types: teacher demonstration, giving tips, reducing difficulty, group cooperation, etc. With the rapid development of science and technology, the proportion of tool scaffolding is increasing. In short, it is an electronic media tool to promote the participation of multiple senses. However, in actual teaching, it is the case that a variety of stents are used together. Scaffolding is used in teaching to help students cross their "Recent Development Zone", so the premise of teaching is to fully understand students' existing knowledge and abilities, including mastered experience, thinking characteristics, perception and physical coordination ability. Combine the learning situation and teaching tasks to design the teaching content that meets the students' level, so that the difficulty of the content is equal to the strength of the students' current level. Set up various types of scaffolding to bring students to the problem situation until students can achieve their goals independently and reach a new stage of development. And it should be emphasized that the ultimate purpose of setting scaffolds is to remove scaffolds.

3.2. Teach students in accordance with their aptitude and teach them in different levels

Confucius put forward the educational concept of teaching students according to their aptitude thousands of years ago, which has a far-reaching impact on teaching. In the recent development zone theory, it also reflects that students are taught in accordance with their aptitude, and the potential development zones of each student are different, so teachers should constantly adjust according to the situation of students when teaching courses and sports skills. In school physical education teaching, we should return to the main body of students, and divide students into basic level, advanced level and excellent level. It should be clear that this classification is not fixed, but a dynamic one, which needs to be changed at any time and adjusted constantly according to students' learning situation, so as to achieve the common goal of learning progress.

The teaching arrangement should take into account the majority of students. Through teachers'

explanation and demonstration and students' practice, students can understand the teaching progress and master the teaching content. Therefore, teachers should formulate teaching content from the perspective of students, so that it is consistent with the students' recent development zone. Teachers should accurately select teaching content and give priority to whether students can accept it. For the relatively simple part of its recent development zone, some extra-curricular knowledge that is easy for students to accept is designed to expand students' knowledge. When teaching difficult parts, teachers can decompose teaching, slow down teaching progress, so that students can better digest, so as to present a better teaching effect.

Physical education teaching mostly adopts the intuitive teaching method, which is different from other disciplines, because physical education is mostly the use of the body, and students initially imitate teachers when learning skills. Teachers will adopt different teaching methods for students at all levels. For elementary students, using intuitive teaching methods is easier for them to accept and practice, so as to guide their movement skills; For advanced students, pay attention to the guidance of thinking, such as inquiry method. For excellent students, when they are explained to a certain stage in teaching, they can be asked questions to cultivate divergent thinking. Students are divided into heterogeneous groups, that is, students with obvious differences in physical fitness and motor skills are divided into one group. Ensure that students at all levels are evenly distributed in the group. Excellent students can use external language and actions to lead and enlighten basic and advanced students in the group, effectively help students break through their personal recent development zone, complete tasks that cannot be completed alone, and show better teaching results. Therefore, in physical education teaching, teachers should not only grasp the individual characteristics of students, but also understand the development differences between them. On the basis of fully mastering the teaching materials, teachers should teach students in accordance with their aptitude in order to optimize the teaching effect.

3.3. Connecting practice and carrying out scientific teaching design

Ferrara et al. Proposed that designing dynamic learning archives in specific fields, including system level prompts and migration task control, is a very effective method. Therefore, to play a role in teaching sensitive areas or recent development areas, teachers not only need to provide the best learning situation, but also set up activities to promote students' understanding. As a medium connecting teaching ideas and teaching behaviors, the scientificity of teaching design determines the teaching effect and students' learning efficiency. The design is based on the school physical education teaching concept, teaching materials, syllabus and students' "Recent Development Zone".

3.4. Change perspective and promote development with dynamic assessment

Students' psychology is developed in the interaction between people, under the influence of systematic teaching, and in the interaction with the environment. Vygotsky believes that teaching is a "process of communication", in which teachers, students and students communicate and cooperate to jointly complete teaching tasks and achieve teaching goals. The teaching evaluation in the zone of proximal development theory is different from the general teaching evaluation. The teaching evaluation in this theory should reflect not only the existing level of students, but also their potential development level. However, most teaching evaluations only reflect the current level of students, ignoring their creativity and potential development level. Vygotsky pointed out that a person's zone of proximal development is not constant, but develops and changes with the interaction between learners and others^[17]. Therefore, it is also extremely important to evaluate the potential level of middle school students. This concept promotes the emergence of dynamic evaluation, which emphasizes various forms of evaluation, can well predict the best development level of students, and formulate corresponding strategies for this purpose. Let students experience happy sports and improve their sense of self-efficacy. And then comprehensively improve students' Sports literacy and sports ability.

4. Conclusions

Build students' sports learning mode according to different students' recent development areas, develop their new sports skills and break through their recent development areas based on their actual level and existing sports skills. At the same time, teachers should follow the law of students' physical and mental development, fully understand students' situation and analyze their learning situation. According to the actual and potential level of students, reasonable teaching, help students build a "scaffold" that is conducive to breaking through their recent development zone, carry out effective teaching evaluation, and help students improve their physical quality and cultural literacy. Therefore, the scientific application

of the theory of the zone of proximal development plays a vital role in improving the teaching effect.

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