



# New Application of Quality-Oriented Teaching Empowering Sports Teaching Aids

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**Abstract.** In the context of educational reform, the significance and value of sports teaching aids in the teaching process are becoming increasingly apparent. This research paper first provides a summary of the concept, types and characteristics of sports teaching aids, and then discusses their various applications in improving students' sports ability, promoting healthy behavior and cultivating sports morality. The practical role of teaching aids in the integration of interdisciplinary knowledge and the whole process of education is demonstrated through the application case of self-made teaching aids in basketball teaching. Finally, the research elaborated on the empowerment of literacy-oriented teaching on the new application of physical education. This included the construction of knowledge transmission channels, the formation of ability improvement loops and the radiation of multi-element nutrition benefits. Physical education teachers are therefore required to think and explore the diversified functions of teaching aids closely around improving students' Sports Core literacy. This is to integrate new educational concepts and promote the continuous update and development of subject education.

**Keywords:** literacy orientation; Teaching empowerment; Sports teaching aids; Teaching feedback

## 1 Introduction

In the context of ongoing educational reform, each academic discipline is tasked with the creation of a distinctive student core literacy system, tailored to the specific values and characteristics of its field. In this process, sports teaching aids, which play a pivotal role in the delivery of instruction, are of paramount importance, as evidenced by their indispensable significance and value when students engage actively and assume responsibility for their own learning. The evolution of sports teaching aids is inextricably linked to the ongoing reform of the physical education curriculum and teaching methods. However, despite this close relationship, the field is currently grappling with two significant challenges: the lack of a clear identity and the lack of a coherent framework. Considering the educational challenges of the contemporary era, it is imperative to devise a comprehensive strategy for the holistic development of students across multiple

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domains. The potential of sports teaching aids to play a pivotal role in cultivating students' sports core literacy is a subject worthy of further investigation. Consequently, it is essential to conduct a meticulous analysis of the significance and future trajectory of sports teaching aids in education, thereby providing robust theoretical foundations for the scientific, effective and sustainable advancement of sports teaching aids.

## **2 Concept, Types and Characteristics of Sports Teaching Aids**

In the context of education, teaching aids play a pivotal role. They encompass a diverse range of resources, including objects, models, and other intuitive teaching aids, as well as key equipment for experiments and training<sup>[1]</sup>. These aids profoundly reflect the educational ideas, objectives, contents, and methods that they facilitate. From the perspective of production and use, teaching aids can be classified into two categories: self-made and factory-made. Factory-made teaching aids are products produced by professional manufacturers for educators to use in the classroom. It is also worth noting that such teaching aids are often self-made in the early stages of research and development. One significant advantage of factory-made teaching aids is that they can be mass produced and have a high degree of ready-to-use and mobility, which is convenient for wide promotion and application. In contrast, self-made teaching aids refer to teaching tools that are produced by teachers and students through hands-on production or combination design using simple and easily available materials. The distinctive feature of this kind of teaching aid is its strong innovation and pertinence. Teachers can flexibly adjust and optimize it according to the actual needs of the classroom.

In the field of physical education, the role of teaching aids is particularly prominent. Since physical education is essentially a practical teaching of sports skills, teaching aids here can not only help teachers teach skills more effectively, but also help students master and understand various sports skills faster. In selecting teaching aids, it is essential to consider the specific teaching style of the instructor, the characteristics of the course content, and the actual needs of the students. However, the primary objective is to enhance the interaction between the instructor and students throughout the teaching process. It is noteworthy that when students participate in the design, production, and management of teaching aids in physical education, it not only constitutes an integral component of educational practice but also represents an organic integration of education and practical operation. This combination not only enhances students' sporting abilities but also fosters the development of their vocational skills, thereby achieving the concurrent advancement of physical education and vocational training.

### **3 Diversified Application of Sports Teaching Aids under the Guidance of Education**

In educational practice, teaching aids are not only a tool to complete teaching tasks, but also an important medium to cultivate students' core quality of physical education. Under the guidance of this concept, we pay more attention to the specific embodiment of the function of teaching aids in the three dimensions of students' core literacy.

#### **3.1 Application of Sports Teaching Aids to Improve Students' Sports Ability**

The motor skills of students can be divided into two categories: basic skills and professional skills. Basic skills are the abilities required for everyday life, work and general sports<sup>[2]</sup>. Professional skills are the abilities required to participate in specific sports activities. In the process of preparing and sorting out teaching aids, students not only exercise their basic skills, but also improve their professional skills when using teaching aids to complete specific learning tasks.

#### **3.2 Application of Sports Teaching Aids to Promote Students' Healthy Behavior**

The term "healthy behaviors" encompasses not only students' physical activities in physical education classes<sup>[3]</sup>, but also their safe and effective physical exercise outside of class. The formation of healthy behaviors depends on students' understanding and application of sports knowledge, sports skills and health knowledge. Teaching aids play an important role in this process, as they not only help students master sports skills, but also transmit health knowledge about the safe and effective use of equipment for sports activities. The objective of this transmission is to enable students to comprehend and master the scientific use of auxiliary equipment for fitness purposes, thereby fostering healthy behaviors. Alongside the cognitive processes of thinking, understanding, perception and other activities such as motivation, attitude and value orientation, it also demonstrates the students' capacity for intentional participation, strengthening practice, competition application and continuous fitness, which is the prerequisite and carrier of independent fitness.

#### **3.3 Application of Sports Teaching Aids to Cultivate Students' Sports Morality**

The significance of teaching aids varies at different stages of the teaching process. During the preparation stage, students assist teachers in creating teaching aids, which fosters the development of teamwork, respect for teachers and the teaching process, and care for the classroom environment. In the utilization stage, the safety of teaching aids and the effectiveness of learning are maintained, reflecting the students' awareness of

sports safety. Finally, in the sorting and recycling stage, students cultivate their sense of responsibility and the ability to complete tasks from beginning to end.

## **4 Application Cases of Self-Made Teaching Aids in Basketball Teaching**

### **4.1 The New Application of Teaching Aids Corresponds to the Foundation of Learning Situation and Teaching Needs**

In ball games, students often demonstrate significant differences in skill mastery due to gender differences. When teaching goals are set at an easily achievable level, boys may feel a lack of challenge. Conversely, when the goal difficulty increases, girls may feel powerless and unable to obtain a sense of achievement. This requires teachers to consider the different ability levels of male and female students when designing hierarchical training, and to formulate teaching goals that are both challenging and achievable<sup>[4]</sup>. In this process, the flexibility and diversity of teaching aids are particularly important. However, the function of teaching aids on the market is often too limited to meet the diverse teaching needs. Therefore, teachers must utilize their creativity and design and produce teaching aids that are more aligned with the actual teaching.

To illustrate, the movement structure of the "changing direction and changing hands dribbling" skill in basketball is relatively fixed, which may result in students feeling bored during the learning process and difficulty experiencing the joy of success. To stimulate students' interest in learning and improve the teaching effect, teachers must innovate in teaching methods and the use of venues and equipment. For example, the marker post and marker barrel, which are widely used in basketball teaching, are currently mainly used as exercise restrictions in the field. However, there is considerable scope for enhancing the potential of these teaching aids. Through ingenious design, teachers can utilize these teaching aids to introduce knowledge from other disciplines, thus promoting the transfer of students' knowledge and skills and facilitating an in-depth understanding of the principle of action. Furthermore, encouraging students to participate in the production process of teaching aids can effectively cultivate their ability to analyse and solve problems.

### **4.2 Integrating Interdisciplinary Knowledge into the New Application of Teaching Aids**

The application of interdisciplinary knowledge, such as physics and mathematics, is of great importance in the process of analyzing the principle of the application of sports teaching aids. Therefore, before the transformation of teaching aids, teachers and students should engage in a joint in-depth analysis, clarify the required technical principal support, and implement it one by one in the subsequent production process of teaching aids. To illustrate, consider the changing direction and changing hands dribbling technology of basketball. Prior to initiating the collective discussion, the instructor commenced by elucidating the pivotal and challenging aspects of the unit. He then proposed

the necessity to address the students' changing direction angle, changing direction amplitude, changing direction speed, and other related issues. Subsequently, he facilitated a brainstorming session, during which the students were encouraged to generate a comprehensive list of potential knowledge, problems, and potential solutions.

Following this, the instructors and students engaged in a discussion, which yielded a thought map. In the context of changing direction and changing hands dribbling technology in basketball, the changing direction angle is divided into action angle and displacement angle. The action angle is three-dimensional, which makes it difficult to be fully controlled. The optimization of the marker post is used to change the action angle in different planes to make the changing direction angle more reasonable. The displacement angle is closely related to the direction change amplitude. The combination and superposition of multiple rods can be employed to optimize the action structure and enhance the breakthrough efficiency. Additionally, during the movement, it is not possible to measure the students' self-perceived speed, and the impact on the hanging markers during the change of direction reflects their change of direction speed, thus enabling self-evaluation and the effective promotion of technical action improvement.

#### **4.3 The New Application of Teaching Aids Is Reflected in the Whole Process of Production and Use**

During the development and utilization of teaching aids, students draw upon their existing knowledge reserve to innovate the equipment. Through the innovation of equipment, the practical application of knowledge is realized. Under the guidance of the teacher, the students designed and constructed a multifunctional crossbar combination device independently. In this process, the students initially focused on the surface phenomenon, using a mind map based on the principle of movement skills to gradually understand the core points of the changing direction and changing hands dribble technology. This method of inquiry from simple to profound not only facilitated the production of teaching aids but also established a solid foundation for subsequent skill learning. Secondly, in the subsequent optimization stage of the teaching aids, the students proactively presented their own opinions, including numerous details that the teacher had not considered. This demonstrated a profound understanding and mastery of the knowledge. Finally, students applied the knowledge they had learned to practical objects. Through the feedback of "material use", they further deepened their understanding of the knowledge and experienced the comprehensive application of multidisciplinary knowledge in daily life.

## **5 New Application of Literacy-Oriented Teaching Empowerment in Physical Education**

The function of sports teaching aids has undergone profound changes under the guidance of the core quality of sports discipline. In today's information age of education, information interaction has become an important feedback mechanism for educational behaviors. This study is based on the interactive path of physical education teaching

information, focusing on the interactive teaching between teachers and students in knowledge and skills. By redefining the three key links of information transmission in physical education teaching—knowledge and skills, feedback mechanisms, and students' autonomous learning abilities—we can reinterpret the intrinsic significance of sports teaching aids. Only by deeply understanding and mastering the core elements of the function of teaching aids can we find the breakthrough point of the connotation construction of teaching aids and further expand the functional development ideas of sports teaching aids.

### **5.1 Information Transmission Build Knowledge Transmission Channels**

Communication refers to the process in which the disseminator transmits information from the information source to the audience through specific channels or media, and then has a certain impact or effect on the audience<sup>[5]</sup>. In the field of education, education communication refers to a comprehensive communication process in which educators carefully select appropriate teaching media according to teaching objectives and contents, and effectively convey knowledge, skills, emotional attitudes, values, etc. to the educated through a series of procedures and methods<sup>[6]</sup>. In this process, media plays an important role in connecting various communication elements. As a special medium, teaching aids enhance the relationship between people and sports learning. Its introduction not only enriches the diversity of connecting media, but also makes the information transmission relationship in teaching more stable.

### **5.2 Feedback Teaching Ability Improvement Loop**

Feedback, defined as the response of the audience to the information received, can be regarded as the reverse effect of the communication receiver on the communicator. DE Fleur's interactive process model is a notable example of this phenomenon. It enhances the communication process by incorporating feedback elements, links and paths. This model emphasizes the interaction between the two sides of communication. The feedback teaching method is a student-centered scientific teaching method<sup>[7]</sup>.

In the context of sports learning, the utilization of teaching aids facilitates the generation of a cyclical process of feedback benefits. The deployment of teaching aids is not merely a learning process; it also serves as a means of evaluating the efficacy of the teaching aids themselves. Through the process of learning, students are able to ascertain the effectiveness of the teaching aids, test the outcomes of their sports skills, and also test the accumulation of multidisciplinary knowledge. This process enriches the elements of students' self-evaluation and provides direction for teachers' summative evaluation. Concurrently, the feedback loop facilitates the integration of teaching aids into the learning process, thereby establishing a multifaceted feedback mechanism that enhances students' abilities. To illustrate, when students utilize teaching aids to learn, any erroneous actions they may perform will provide a plethora of feedback information to both teachers and students.

### 5.3 Self-Regulated Learning Radiates the Benefits of Multi-Element Nutrition

In the context of physical education teaching, the significance of experience cannot be overlooked. Through each practice and perception, students demonstrate active awareness and exploration of knowledge, gradually construct their own knowledge system, and allow their personality to be fully displayed and developed. This process of active knowledge construction and personality development is inextricably linked to the profound experience gained by students in learning. The active construction of students' knowledge and the all-round development of their personality are derived from their learning experience. In the process of high-quality experience, students improve their autonomous learning ability through active engagement, teamwork and self-driven learning. When students use teaching aids in physical education learning, they gain a positive physical and mental experience from the classroom environment, which is composed of multiple information elements such as teacher behaviors, venues and facilities, and student interaction. This positive experience enables students to continue to study in depth in the learning situation constructed by the teaching aids. The use of learning situations to promote classroom teaching is an effective method of cultivating the core quality of the subject. In such a classroom learning environment, students have formed a consensus to actively participate in sports learning, which has improved their willingness to learn independently, internalized the core quality of sports, and shaped a stable learning attitude and personality.

## 6 Conclusion

The use of sports teaching aids does not directly contribute to the cultivation of students' Sports Core literacy. From the perspective of the relationship between the value of goods and the use value, the use value of teaching aids is determined by teachers. In the context of contemporary educational reform, physical education teachers must consider how to enhance students' Sports Core literacy across the entire curriculum, from the selection and utilization of diverse teaching resources to the implementation of educational practices. The judicious integration of sports teaching aids into sports teaching has emerged as a pivotal challenge for contemporary sports educators. Concurrently, it is an unavoidable necessity for the continuous updating and development of subject education to persistently investigate the novel applications of teaching aids throughout the teaching process, with the objective of integrating novel educational concepts such as interdisciplinary learning and labour education.

## Reference

1. R. Kamaleyeva and R. R. Khadiullina. FROM THE EXPERIENCES OF TEACHING AIDS «PHYSICS IN SPORTS» FOR STUDENT-ATHLETES[J]. *Nauka Krasnoâr'â*, 2014, 0(6) : 110-124.

2. Huseyin O.. The impact of sport activities on basic motor skills of children with autism[J]. Pedagogics, psychology, medical-biological problems of physical training and sports, 2019, 23(3) : 138-144.
3. Sharifi Ehsan et al. Effects of a comprehensive educational program on health behaviors and awareness of HIV, hepatitis B, and hepatitis C in men with substance use disorders[J]. Middle East Current Psychiatry, 2024, 31(1)
4. Iosifidou Eleni and Varsamis Panagiotis. Goal Contents, State Empathy and Instructional Goals in a Physical Disability Vignette.[J]. Health communication, 2023, 39(4) : 11-12.
5. Nieken Petra. Charisma in the gig economy: The impact of digital leadership and communication channels on performance[J]. The Leadership Quarterly, 2023, 34(6) : 101631-.
6. Juárez Sergio Fernando and Rudick C. Kyle. Imagining futures for;Communication Education;: XR/VR and the promise of educational technology[J]. Communication Education, 2024, 73(2) : 244-246.
7. Carey Nolan and Simonton Kelly L. and Byra Mark T.. Using a Flipped Classroom to Improve Student Analysis and Feedback to Peers in The Reciprocal Style of Teaching[J]. Journal of Physical Education, Recreation & Dance, 2023, 94(7) : 35-39.

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