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Classroom Turning and Dialectical Treatment Based on PE Deep Learning

Feng Zhaoyuan, Zhang Bingbing

College of Physical Education, Hunan University of Technology, Zhuzhou, Hunan, China, 412000

Abstract: *Classrooms based on physical education deep learning should provide individuals with more free imagination space and more autonomous exploration boundaries. Physical education deep learning should be linked to the core competencies of physical education and distinguished from other disciplines. This research through a dialectical research paradigm, analyze the structure of the physical education deep learning classroom: high-level cognition, high challenge topics, high engagement state, and high interesting situations. This research propose strategies for the transformation of physical education classrooms: analyze subject connections and promote deep understanding; Pay attention to differences in motivation and design diverse topics; Emphasize state recognition and complement classroom collaboration; Create interesting situations and strive to transfer and apply them. The integration of skill principles and student experience is the true goal of deep physical education learning.*

Keywords: *Deep learning in sports; Classroom; physical education*

1. Introduction

At present, China has entered the magnificent flood of the second century, which has promoted the high-quality development of various industries at this critical historical node. As an important productive force, education needs to change its concepts, adjust its policies, optimize its methods, and cultivate talents for the Party and the country. We should establish the educational concept of health first, help students enjoy fun, enhance their physique, improve their personality, and temper their willpower in physical exercise[1]. How to better realize the educational value of sports? How to fully utilize the functions of physical education classrooms? In the Book of Rites and Learning, it is recorded that "the teachings of a gentleman are metaphorical. The Tao cannot be restrained, the strong cannot be restrained, and the open cannot be achieved." This means that wise teaching cannot go against the subjective will of students. When students resist, are confused, and seek knowledge, a free learning environment should be created accordingly. Encouragement, guidance, and inspiration should be encouraged, and suppression and indoctrination should be avoided to achieve mutual benefit between teaching and learning. It coincides with the concept of deep learning, and the eternal theme in the wave of education and teaching reform in various countries around the world is the pursuit of high-quality deep learning[2]. Therefore, this article focuses on how to break the deadlock in sports learning methods through deep learning? How to promote the research paradigm of physical education teaching through deep learning? How to promote the transformation of physical education classroom through deep learning?

2. Analysis of the Meaning of Deep Learning and Physical Education Deep Learning

2.1. Deep learning and surface learning

MARTON et al. introduced deep learning from the field of artificial intelligence into the field of education, aiming to describe the learning state of students while reading[3]. In 1979, BIGGS pointed out that deep learning focuses on high-level or active cognitive processing, while surface learning corresponds to low-level cognitive processing[4]. In 1987, BIGGS proposed the concept of deep learning, believing that it is a meaningful learning that advocates initiative and criticism, consisting of deep emotions and deep strategies[5]. In 1997, Beattic, Collins, and others proposed that deep learning is learning for understanding, emphasizing critical understanding, connections with previous knowledge and experience, and evidence of logical relationships and conclusions[6]. With the rise of core literacy concepts in disciplines, deep learning has been endowed with more educational functions. Deep learning is an essential living ability that enables citizens to excel in 21st century work. Deep learning focuses on

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using subject knowledge to flexibly solve problems and use these abilities to cope with future risks and challenges. [7]. The ultimate goal of deep learning is to train students to be "effective learners", to explore the essence of knowledge in the process of active learning, and to make critical understanding while obtaining the essence; Students in the process of searching for models and principles, pay attention to the evidence of logical relationships and conclusions; Students in the process of forming a knowledge structure, compare and connect new and old knowledge, and use the constructed new structure to try to solve new problems; They can reshape, test, and share knowledge in a collaborative environment, and enhance the ability and level of dialectical learning[8].

2.2. The Problem Representation of Obstructing Deep Learning in Physical Education

In essence, the occurrence of deep learning is a process of how knowledge is generated and transmitted. The scientific and empirical knowledge concepts held by current teaching have blocked students' deep learning, which is specifically characterized by insufficient knowledge demonstration, knowledge point distribution, and absolute truth knowledge concept[9]. In practice, due to students' habit of staying at the surface of knowledge, adopting the principles and strategies of deep learning in practical situations is like scratching one's feet, and the process and results of deep learning are difficult to effectively occur [10] [11]. At present, there are many persistent problems in physical education teaching in primary and secondary schools: firstly, the teaching of physical education subject knowledge lacks scientificity, often "drawing from scratch" and neglecting deep logic; Secondly, the content of physical education teaching is relatively dull, or the tendency to take exams or perform is more prominent; Thirdly, physical education teaching methods are relatively rigid, mainly focusing on explanation, demonstration, and practice, lacking teaching reflection and criticism; Fourthly, physical education teaching lacks vivid contexts, making it difficult to connect learning content with the subject's life experience. There is no unified standard for depth, which should be set by subject experts themselves[12]. Especially in the field of physical education, deep learning, as a newly integrated concept, should be more in line with the characteristics and functions of physical education.

2.3. Physical Education Deep Learning

Scholars define deep learning in physical education as: under the guidance and assistance of teachers, students engage in challenging physical activities through complex cognitive processes such as movement and thinking in specific practice situations, generating strong physical and mental experiences during the exercise, understanding and applying the knowledge, skills, and cultural values of the learned sports items. The learning process of enjoying fun, enhancing physical fitness, improving personality, tempering willpower, and developing core competencies in the subject[13]. In the field of physical education, individuals or group members are willing to continuously participate in a large number of deliberate exercises focused on various types of physical activities, based on a critical and systematic understanding of sports and its related knowledge and significance. At the same time, they deeply reflect, provide effective feedback, form decisions, and apply them to learning and life, thereby obtaining continuous and complex experiences, which trigger comprehensive, lasting, and deep adaptive changes in both body and mind[14]. Based on the above understanding of the operational definition and connotation of sports deep learning, the structural hierarchy of its elements can be sorted out. Firstly, high-level cognition, secondly, a state of high engagement, thirdly, a highly challenging topic, and fourthly, a highly interesting situation.

2.4. The relationship between deep learning in sports and core competencies in sports

The curriculum standards condense the core competencies of physical education into three aspects: athletic ability, healthy behavior, and sports ethics[15]. Among them, athletic ability is the foundation, healthy behavior is the core, and sports ethics are the guarantee. The three major qualities are closely linked and mutually reinforcing, jointly building a solid foundation for students' future healthy life. Developing core competencies in the field of physical education is an important pursuit of deep learning in physical education. Utilizing deep learning to develop students' core competencies and 21st century skills has become a global direction for classroom teaching reform. In fact, the starting point of core literacy is to develop students' core literacy, rather than the core literacy of teachers or disciplines. As one of the means to develop sports discipline literacy, deep learning in sports is closer to the goal of developing students' sports core literacy, more concerned with the generation of students' subjective meaning, more able to cultivate students' ability to reflect and criticize, and more able to construct students' experiential life and meaningful world.

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3. Analysis of the Paradigm of Deep Learning Research in Physical Education

Deep learning is committed to studying the processes that occur in real situations and focuses on having a substantial impact on educational practice; Its methodological research is conducted at three levels: physiological, psychological, and technical[16]. How to understand the representation and implementation of deep learning in the process of physical education teaching, and how to use the most practical means to promote the integration of deep learning into physical education teaching, should adopt the "dialectical treatment" method in philosophical research. Dialectical treatment comes from the general outline of traditional Chinese medicine treatment, seeking the root of syndrome differentiation, must examine its attributes, grasp its subject, and prioritize its cause. At present, there is an urgent need for deep learning in physical education to observe students' implicit or explicit learning representations through teaching practice in specific fields, and to scientifically describe and dialectically use structured levels to promote better practice. It should be noted that deep learning in physical education is not an abstract expression that cannot be concealed. Deep learning research is a process of unifying phenomena and evidence, in order to achieve theoretical operability. Observable specific tasks should be constructed to close the relationship between deep learning and physical education teaching.

At present, the universal research on deep learning in sports can adopt a research paradigm with a local color - dialectical, integrating different educational paradigms, and integrating both internal and external coordination. As the qualitative sexual orientation adopted in this study, the further research methods are the description and coding of behavior, the interpretation and transformation of theory.

3.1. Description and coding of behavior

Description originates from phenomenology. phenomenology, in Husserl's view, is a science that describes the essence. The most intuitive representation in the physical education classroom is the flow of teaching and learning. Therefore, the purpose of classroom phenomenon description is to return to the essence of physical education in-depth learning. Our analysis of physical education classrooms should not be limited to a single teaching phenomenon and factual description, but should be based on a large amount of empirical dialectics to construct an effective clarification of skills, emotions, and attitudes. In diverse contexts, the observation of physical education classrooms also undergoes many changes, especially in terms of cognition and engagement. Students are attracted to diverse classroom tasks, presenting the relationship between students and deep learning contexts.

3.2. Explanation and Transformation of Theory

Interpretation and transformation are the processes of interpreting and understanding the meaning of deep learning quality, which possess the characteristics of qualitative research shifting from "on-site text" to "research text" to analyze and seek powerful explanations. They also give an abstract or causal explanation to a series of events or experiences, and propose precise treatment methods [16]. At present, the physical education classroom has a sound goal orientation, but there is a technical gap between the goals and processes. When deep learning is used as a medium, introducing deep learning theory into the physical education classroom can explain the process and mechanism, and construct a constantly iterative deep learning theoretical system.

4. The classroom turning structure of deep learning in physical education

Bostock [17] believes that the strength of the learning environment can be tested by the following questions: Does our teaching strive to shift knowledge indoctrination into active generation? Is our teaching more inclined towards students' developmental, constructive, reflective, generative, and goal oriented learning? Does our teaching enable students to acquire the ability to collaborate, think, criticize, and regulate? Based on this, combined with the uniqueness of physical education classrooms, the key points of constructing deep learning scenarios are: ①promoting students' high-level cognition and having a critical grasp of knowledge and skills. ②Classroom tasks are flexible and varied, and high challenge tasks are assigned according to students' different physical and mental development states Generate "flow of mind" in classroom learning, paying attention to students' emotional states Set up interesting classroom situations, promote students' knowledge reconstruction, and combine discovery based teaching with meaningful learning.

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4.1. High level cognition

Domestic and foreign sports scholars analyze the process of learning sports skills from four aspects: Body Awareness, Space, Quality of Movement, and Relationship [18], as well as seven elements: body posture, movement trajectory, movement time, movement speed, movement rate, movement strength, and movement rhythm [19]. The learning process of motor skills is usually not divided into individual actions, and different stages of each project contain the aforementioned action characteristics. There are dynamic connections between various knowledge structures, and the essence of learning is the construction and integration of knowledge [20]. What students need to learn is not a single physical presentation, but the connection and transfer of knowledge. Deep learning in physical education not only promotes students' reflection and transfer, but also puts forward higher requirements for physical education teachers to master the essence of knowledge and the interrelationships between disciplines. Referring to Biggs' SOLO (Observation of Learning Results) classification [21], this framework can well enable physical education teachers to understand and examine the depth of teaching and learning, indicating that from surface learning to deep learning is a continuum. The theory of 'meaningful learning' encourages students to actively participate in activities that seek the relationship between existing and new knowledge, and the existing cognitive structure is a necessary condition for learning new knowledge [22]. Physical education teachers should guide students to experience the difference in force between throwing things upright and throwing things beyond the reach of instruments, and guide students to think about which aspects of other projects can also use this technique.

4.2. High challenge topics

The survey by the Swedish Group [23] [24] revealed the regularity of students' learning methods (surface/depth) and learning outcomes [25]. There is a fundamental difference between deep and surface learning: deep methods lead to high. deep understanding levels, while surface methods lead to low, i.e. surface understanding levels. This connection is to some extent inevitable, as adopting in-depth learning methods is a necessary condition for learning, not a sufficient condition. The contribution of this study is to emphasize that students' intentions are crucial, as what they want from learning determines whether to use deep or superficial methods, and the methods used determine the level of performance. Several learning orientations should be identified, rather than simply superficial depth. Students' learning styles and methods are partly determined by their motivation, personality and methods, and partly by their learning tasks, lecturer attitudes, enthusiasm, assessment and environment. Successful intervention requires a full understanding of the complexity, complexity and contingency of the two kinds of learning, as well as the relationship between them in the environment [25]. In terms of content selection, firstly, it is necessary to change the concept of "safe sports" and increase the difficulty of the content. Games and play are not all about sports. In addition to being fun, sports practice must have a certain degree of difficulty, challenge, and even danger. This is also a special emphasis in the United States when summarizing the reasons for the failure of sports education reform [26]. The second is to distinguish the differences in physical and mental development between males and females. There are significant differences in self-awareness, task value, and participation in sports between males and females, and males and females should choose to invest their efforts in different activities [27].

4.3. High investment state

Research in emerging neurobiology has shown that emotions are the key to deep learning, and Flow "flow" is a prerequisite for deep learning, while boredom is the opposite of flow [28]. Through students' behavioral performance, such as linking sports skills with personal experience, and generating immersion, contemplation, experimentation, confusion, etc. during skill acquisition and practice, it can be determined whether "flow" occurs. At the same time, a high level of engagement also requires students to participate in setting course goals, "not allowing students to experience feelings of isolation and alienation." Teachers can organize a part of the course and allow students to choose the remaining themes or questions. Students explore the course materials and collaborate in selecting course themes or constructing teaching outlines. This method ensures that the teacher considers important topics and communicates the significance of the course to students. Realize the connection between students and the service learning between students and others, which improves students' civic learning, diversity awareness, moral development, critical thinking, and value clarification. If you want to achieve a high level of engagement, physical education classrooms are actually easier than other disciplines. Due to their "physical and mental participation" characteristics, as long as the methods are appropriate and common activities are modified, it is easy to generate "immersive" fun.

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4.4. A highly entertaining situation

Gane believes that "the ultimate goal of any course is to solve problems"[29].. Therefore, the important content and main goal of physical education classrooms should also be to cultivate students' problem-solving thinking, processes, and methods. In this process, emphasis is placed on creating deep learning contexts, deeply grasping the core knowledge of the subject in real situations, understanding the logical kinks between knowledge, criticizing the specific representations of key elements, and acquiring the ability to transfer and apply in similar situations. [30].. The process of developing this ability from scratch and from existence to excellence corresponds to cultivating students' ability to discover and solve problems, which is the advanced form of classroom teaching[31].. Therefore, physical education teachers should be committed to creating real situations that promote deep learning, integrating learning and situations, and optimizing course teaching through situational evolution[32]. Gym teachers create interesting situations based on classroom objectives to stimulate students' initiative and step by step in multiple teaching stages, guide students to explore and criticize, connect old experiences with scientific logic, and achieve a high level of cognition; Teachers guide students to draw conclusions from different stages, overturn, reconstruct, and apply them to new situations; Introduce high challenge topics, build scaffolding, and students achieve their goals through scientific means, thereby self actualizing and stimulating a sense of achievement.

5. Classroom Turning Strategies for Deep Learning in Physical Education

5.1. Analyzing disciplinary connections and promoting deep understanding

Firstly, in terms of content selection, physical education teachers should not only establish a perspective from their own discipline, but also organically connect with other disciplines. Analyzing a skill should examine its neuropsychological, perceptual, and decision-making needs[33]. For example, physical education is closely related to physiology, physics, psychology, etc. Students can promote understanding of various disciplines in the process of skill acquisition. Second, in terms of teaching methods, physical education teachers should change the simple demonstration and explanation method, add inquiry learning, group cooperative learning and other high-level thinking methods, and promote students' acquisition of sports skill principles. Thirdly, in terms of teaching methods, links such as "flipped classroom" should be added to transform the classroom subject, and multimedia methods should be used to empower the physical education classroom with artificial intelligence.

5.2. Focus on motivational differences and design diverse topics

Firstly, we should abandon the conservative "safety physical education class" and design challenging learning tasks. This difficulty refers to the difficulty that can be achieved through scientific guidance in a relatively reasonable environment, through students' active construction and teachers' guidance, rather than being difficult without thinking, which can actually dampen students' enthusiasm. Secondly, pay attention to the gender differences of students. Boys are more inclined to engage in physical activities that are confrontational, explosive, and competitive, while girls are more inclined to engage in physical activities that are endurance, agile, and flexible. For example, during the warm-up phase of running, boys use rhythm running and sprinting for the last 100 meters, while girls use jogging, jumping, and box drilling to enhance their sports experience. Thirdly, pay attention to individual differences among students. Performance differences are specific to sports events, not specific abilities. There is no so-called "general athletic ability", and abilities are special and unique[34]. The performance of students in the classroom is uneven, and what physical education teachers need to do is to make up for it rather than "pull it together".

5.3. Emphasize state recognition and complement classroom collaboration

Classroom teaching is the main battlefield for deep physical education learning, and the student body cannot become empty talk. Firstly, physical education teachers should be brave, good at, and willing to operate a cooperative classroom model. They should discuss teaching objectives, processes, methods, and evaluations with students in various aspects, enhance their learning participation, and create a democratic and cooperative classroom atmosphere. Secondly, adopt teaching strategies such as games, groups, exploration, and competitions to encourage students to participate and gain physical and mental benefits in the classroom. Teachers are responsible for designing the classroom, guiding the process,

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organizing the process, and participating in learning. The achievement of deep learning is not achieved overnight, but requires collaborative cooperation between teachers and students. Thirdly, classroom organization should emphasize methods and methods, so that students can "enjoy learning" in order to trigger the generation of deep learning. This involves the diverse evaluation of physical education teachers. Teachers should observe students' performance in addition to their grades in the teaching process, such as being good at cooperation, willing to help others, adhering to rules, persevering, and enterprising, in order to achieve the function of physical education education.

5.4. Create interesting situations and strive to transfer and apply them

The key to deep learning is the creation of learning contexts. Due to the characteristics of physical and mental participation in sports practice activities, the creation of sports learning contexts is more conducive to promoting students' development of core competencies[35]. The ultimate goal of achieving deep learning in physical education is to enable students to acquire problem-solving abilities. In physical education classrooms, it is necessary to cultivate students' problem-solving thinking, and ultimately enable this thinking to diverge and transfer in different situations. Firstly, the physical education classroom context must be tailored to students' life experiences, using daily habits, film and television works, and field records as sources of material to stimulate students' curiosity and thirst for knowledge. Secondly, the direction of teaching content should be from surface to connection to depth, and the deep principles and practical applications of skills should be thoroughly explained. Thirdly, the creation of situations is not limited to a single classroom. 'Life is education'. The materials of deep learning classrooms come from life, and the end point should also be returning to life. Only when students can spontaneously construct and apply in life situations can the classroom goal of physical education deep learning be achieved.

6. Conclusions

Physical education deep learning should be a wise learning that fully connects human subjectivity with deep knowledge, rather than a single state representation or result measurement. The value of physical education deep learning cannot be measured by the acquisition of skills, but should be given more freedom of imagination and more autonomous exploration boundaries to individuals. The classroom shift based on physical education deep learning seems to be a transformation of teaching mode, but in reality, it is a transformation of learning methods. The ultimate goal is to promote why students learn, what to learn, how to learn, and how to enjoy learning, and to integrate skill principles and student experience, which is the true purpose of physical education deep learning.

References

[1] (2018-09-10) [2021-12-15]. http://www.gov.cn/xinwen/2018-09-10/content five million three hundred and twenty thousand seven hundred and fifty-two.
[2] Gao Jiangyong, Min Yongjun.(2016).How does high-quality learning come about. Exploration of Higher Education, 6, 86-91.
[3] MARTON F, SVENSSON L(1978). Concepts of research in student learning . Higher Education, 8, 471-486.
[4] BIGGS J(1979). Individual differences in study processes and the quality of learning outcomes. Higher education, 8,381-394.
[5] BIGGS J(1988). The role of cognition in enhancing learning.Australian Journal of Education, 32 (2), 127-138.
[6] BEATTIE IV V, COLLINS B, MCINNES B(1997). Deep and surface learning: a simple or simple dichotomy Accounting education, 6 (1), 1-12.
[7] Bu Caili, Feng Xiaoxiao, Zhang Baohui(2016). The Concept, Strategy, Effect, and Inspiration of Deep Learning: Interpretation and Analysis of the Deep Learning Project (SDL) in the United StatesJournal of Distance Education, 5, 75-82.
[8] Entwistle N. Promoting deep learning through teaching and assessment: Conceptual frameworks and educational contexts [OL]
http://citeseerx.ist.psu.edu/viewdoc/download ;Jsessionid=44C70DF729B1CB44113BD08B1B4EA4E8 ? Doi=10.1.1.1118.8968&rep=rep1&type=PDF.
[9] Zhuo Xiaomeng, Zhang Liang, Wang Kezhi(2021). Consensus, Disagreements, and Issues to be Solved in Deep Learning Research in the United States: A Comparative Study Based on the Report on

ISSN 2618-1576 Vol. 5, Issue 6: 41-47, DOI: 10.25236/FSR.2023.050608

Deep Learning in the United States. Foreign Education Research, 4, 118-128.
[10] Chen Mingxuan, Zhang Kangli(2016). Design and Implementation of Flipped Classrooms to Promote Deep Learning for Graduate Students. Modern Distance Education Research, 5, 68-78.
[11] Gong Jing, Hou Changlin, Zhang Xinting(2020). The generative logic, teaching model, and practical path of deep learning. Modern Distance Education Research, 32 (5), 46-51.
[12] Egan, K (2011).Satisfying the "Learning in Depth" Criterion.The Irish Journal of Education/Iris Eireannach an Oideachais,39,5-18.
[13] Liu Junkai(2020) .The Connotation, Characteristics, and Implementation Strategies of Deep Learning in Physical Education. Curriculum, Textbooks, Teaching Methods, 12, 102-107,
[14] Wang Luying, Zhu Weiqiang(2022). Construction of a Conceptual Framework for Deep Learning in Physical Education. Journal of Chengdu Institute of Physical Education, 2, 117-122.
[15] Ministry of Education of the People's Republic of China (2018). Standard for physical education and health curriculum for general high schools (2017 Edition). Beijing: People's Education Press.
[16] Hu Hang(2022). Differentiation and Treatment: A Methodology for Deep Learning Research. China Distance Education, 7,70-77.
[17] Bostock S(2015). Powerful learning environments .British Journal of Educational Technology, 2, 347-348.
[18] Yi Xiangren, Zheng Chunmei, Tian Jiming(2013). Optimization Group Model and Evaluation Method for Basic Sports Skills. Shandong Sports Technology, 35 ,69.
[19] Zhao Huanbin, Li Jianshe(2010). Sports Biomechanics. Beijing: Higher Education Press, 99.
[20] Alan C. Ornstein, Francis P(2010). Hankins Course Theory: Fundamentals, Principles, and Problems.5th edition Beijing: China People's Publishing House, 122.
[21] BIGGS, J (1999).Teaching for quality learning at university England: Society for Research into Higher Education and Open University press. 78.
[22] NOVAK J D(2003). The promise of new ideas and new technology for improving teaching and learning [J] Cell Biology Education, 2 (2), 122-132.
[23] Marton, F(1975). What does it take to learn? In How Students Learn (edited by N.J. Entwistle and D.J. Hounsell), pp. 125 - 38 Institute for Research and Development in Post Compilation Education Lancaster: University of Lancaster.
[24] Marton, F. and Sa È ljo È, R(1976). On qualitative differences in learning: I. Output and process, British Journal of Educational Psychology .46, 4 -11.
[25] BEATTIE IV V, COLLINS B, MCINNES B(1997). Deep and surface learning: a simple or simple dichotomy Accounting education, 6 (1),1-12.
[26] Lin Wenge, Meng Hui, Sun Sizhe(2010). Comparative Study on the Reform of School Gymnastics Education in China and the United States: A Discussion on the Future Development of School Gymnastics Education in China [J]. Journal of Shenyang Institute of Physical Education, 29 (6),102-105.
[27] JACQUELYNNE S. ECCLES, RENA D(1991). Harold. Gender differences in sport investment: Applying the cycles' expected value model. Journal of Applied Sport Psychology, 3 (1),7-35.
[28] Grauerholz, L(2001). Teaching Holistically to Achieve Deep Learning.College Teaching, 49 (2),44-50.
[29] R. M. Gane, W. W. Weijie, K. C. Goles, et al(2007). Principles of Instructional Design. Translated by Wang Xiaoming, Pang Weiguo, Chen Baohua, et al. Shanghai: East China Normal University Press.
[30] John Dewey(2005). How We Think. Translated by Jiang Wenmin. Beijing: People's Education Press, 55.
[31] Zhang Zhongyin, Ma Lingbo(2022). Physical Education Teaching Design Focusing on Core Literacy: Theory and Path, Problems and Strategies. Journal of Beijing Sport University, 3, 58-68.
[32] Tian Na(2018)The Development of Situational Education in China and Its Theoretical Implications. Education Research, 39 (7), 31-40.
[33] MCMORRIS T(2014). Acquisition and performance of sports skills. John Wiley&Sons, 6.
[34] MCMORRIS T(2014). Acquisition and performance of sports skills. John Wiley&Sons, 8.
[35] Xu Wei, Yao Lei(2020). A New Paradigm of Core Literacy Oriented Physical Education Teaching. Journal of Beijing Sport University, 43 (7),:47-57.