

# Research on School Physical Education Problem based on Complexity

## Theory View

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**Abstract:** As far as the school physical education, the conventional methods and form are concerned, facing the modern school physical education it is hard for us to master many complex problems. School physical education is mainly based on the complexity science which is different from the previous “linear” and “reductionism” way of thinking. “For the non-linear thinking, we should think about the relationship between the operation mode of school physical education. We mainly describe the physical education as a complex system which contains the complexity of education object, the education structure, the education method, and the education environment in this paper”. At the same time, we point out that the school physical education should go beyond the reduction thinking, and realize the education as a whole so as to prevent the dependence of the physical education. We place emphasis on the physical education consciousness of reflection, and break the static and conservative thinking way, and innovate the education mode. Thus, with the simplistic tendency, we should reverse the education method, and attach importance to the comprehensive education method.

### Introduction

In classic and scientific world view, the world essence is in order, and the disorder only belongs to the phenomenon of things, and the purpose of the scientific understanding is to get through the phenomena of chaos to find and grasp the regularity of essence of things. In classic scientific methodology view, the complex appearance of the phenomenon can be explained starting from some simple principles. The existence and the amazing diversity of things can be explained starting from some simple elements. This is likely to lead to two extremes: simplification and isolation. Starting from the observed facts proved constantly to make generalizations can't lead to the real certainty. The theoretical certainty can be only established on the basis of the deduction. The real world is not divided, fragmented, and causal and clear. Just as Pascal has said, everything is both the cause and the result, and it not only has the indirect connection, but also has the direct action. All things are linked naturally together. The reality needs people to use the complex thinking mode to grasp the overall and basic problem so that people can think at the background.

### The Complexity of School Physical Education

**The Complexity of Education Object.** The complexity of education object can lead to the complexity of education directly. Since ancient times, people have revealed the questions about the human essence at different levels in different degrees. In modern and contemporary China, people realize that human is not only the entity at the individual level but also the entity at the social and cultural level. Marx has pointed out that Human being is the summation of all social relations. Extremely concise language fully demonstrates the human's complexity. Cassirer has revealed the

human's complexity from the cultural angle, "Human culture as a whole can be called the course of people's constant self-emancipation." In Moran's opinion, "For human being, the burial bells of a closed, fragmented and simplified theory is knelling, while an open, multiple and complex theory era has began."

**The Complexity of Education Method.** There is a very complicated causal connection between the various influencing factors of education in the world. When Michael Fullan has summarized the complex transformative mode of education, he has pointed out, "The transformation is a journey, not a blueprint", because "the transformation is non-linear, and is full of uncertainty and excitement, sometimes it also violates the logical thinking." What's more, we "can't be forced to decide what is important, because the more complex the transformation is, the less things you can force it to do." [5]The school physical education has its special complex property. The complex thinking emphasizes that the development of things is non-linear. And at the same time it emphasizes that there is the widespread connection between the different things. This kind of connection is particularly apparent in the teaching process of the school physical education. With the vigorous development of sports cause, people have already fully realized that as a kind of special social activities the school physical education needs to pursue its own more complex discipline purport and mission, and it also necessarily requires the particularity and the diversity of education method.

**The Complexity of Education Environment.** The real essence of education world exists in the connection the open system and its environment. After the winner of the Nobel Economics Prize, Herbert Simon, has done the research, he has given his opinion. When the ants have crept along the sandbeach full of large and small stones by the sea, they have left the winding path. It doesn't mean the complexity of the ants' cognitive ability, but it only means the complexity of the coast. When we treat people as a behavior system to review, the complexity of people's behavior is also the reflection of the complexity of environment. A person's reason which can't consider both the complexity of background environment and global complexity will lead to blindness, reckless, and irresponsible. The understandability of education system should be found not only in the system itself but also in the relationship between it and the environment. This kind of relationship is not only a simple external dependence but also the component factor of the system itself. The complexity of the school physical education should be reflected in two aspects. One is the complexity of the external environment of physical education, and the other is the complexity of the internal environment of education. In other words, they are the macro environment and the micro environment.

**The Complexity of Evaluation Method.** There is a big difference between the evaluation of school physical education and the evaluation methods of other disciplines. Take the examination examination, the Chinese examination, and the foreign language examination for example, this kind of examination focuses on the students' examination scores, that is to say, it mainly focuses on the qualitative evaluation. Due to its own particularity of the school physical education, the evaluation of school physical education has its unique evaluation concept. We should not only pay attention to the evaluation result but also need to pay attention to the evaluation process. Therefore, the physical education teaching evaluation is a complex system. If we need to continuously strengthen and improve the physical education teaching evaluation, we must be establish the view of connection and correctly dispose the various relations in the physical education teaching evaluation. The disposition of this kind of complexity relation is mainly reflected in the following several aspects. We not only need to consider the students' knowledge objective but also need to consider the students' ability objective. We not only need to focus on the students' situations of reaching the standard but also need to focus on the students' emotions, attitudes and value concepts. We not

only need to pay attention to the unity of the physical education and health but also need to combine the physical education with the intellectual education, the moral education, the aesthetic education and other many educations to promote the students' overall development. We not only need to have the teachers' evaluations but also need to have the students' evaluations. We not only need to have our self-evaluations but also need to have the evaluations from others. We not only need to create the personalized students but also need to have the cooperative learning with unity and cooperation. We not only need to see the overall connection on a global level but also need to see the part of the connection on a local level.

### **The School Physical Education in Our Country of Going toward the Complexity Thinking**

#### **The Surpassing Action of Reducing Thinking and the Realization of Integrated Education.**

From the perspective of complexity thinking, the interaction of each part in the school physical education is not a simple additive relationship. And the causal relationship between them is also not the one-way chain, but it is the complex web of causal relationship. The school physical education objective determines the development direction of school physical education. The school physical education course is the core of school physical education. If we have what kind of education objective, we will have the corresponding courses, and we will also have the corresponding teaching methods in the same way. The complex interactions between its parts in the school physical education lead to the uncertainty of the whole system, and even it is likely to have the unexpected global property. Facing the complexity of the physical education phenomenon, any one discipline of the pedagogy can only solve a certain local problem. Only the multidisciplinary deep research may solve the the entire problem. Therefore, when we carry out the school physical education, we not only need to consider the realization of main objective but also need to consider that the phased objectives at different periods have the possible impact on other factors of the system as much as possible. Thus, we can overcome the narrow sense of disciplinary boundaries, actively absorb advanced teaching idea, abandon the simple reducing thinking, form the thinking pattern of pluralistic integration and take the problems appeared in the physical education as the complete, complex and irreversible things.

**The Prevention of Education Adherence and the Emphasis of Education Reflective Consciousness.** If we want to prevent the education adherence, we must need to carry out the thinking, judgment and summary on the related discipline theory and the sports achievements abroad so as to make it be suitable for the actual development of the school physical education in contemporary China actually. "If we adopt the teaching method invented by somebody else, we surely don't mean to copy A as A and copy B as B so that it is OK when we copy them. We must combine A and B to form a C which is appropriate to the national conditions and the childlike innocence. It is actually the first duty of a educator." [11] Reflection is the important impetus of the scientific progress. In the view of the complexity thinking way, if the system needs to develop, it must need to have a feedback mechanism. The reason is that the self-organization of the system is not reversible. The researchers only contact the history, and have the self-reflection consciousness and the historical consciousness so as to be able to clearly understand the development trend of the system. Therefore, we must establish the reflective consciousness of physical education idea, and especially we need to strengthen the reflection on the thinking way. If we don't realize the transformation of thinking mode, we will lose the opportunity of the disciplinary development.

**The Breaking Situation of Static and Conservative Thinking Way, and Innovation of the Education Mode.** The static and conservative thinking way is mainly aimed at the most common educational concept in the Chinese school education at present. Now, although our country strongly

has advocated the school physical education thought of the student-based and health-first action, and a lot of physical education teachers also have learned the related theories, we should pay attention to how to realize the student-based thought and how to change the teaching methods actually so as to ensure that the health is first. The school physical education is changing from the “traditional style” to the teaching mode of invigorating health effectively, and we have experienced the development and revolution from the happy physical education to lifelong sports, and from the body quality education to today’s health quality education. In the teaching practices, many teachers still follow the traditional teaching idea, but they don’t carry out the teaching work creatively. For example, Chinese physical education teaching content can’t lead the physical education teaching to the further research, and it only stays on the phenomenon and entity level, and it only goes straight into the teaching of several motor skills so as not to satisfy the needs of students’ understanding of sports. Because the teaching of “forward roll” and “shot put” is not the ultimate goal of physical education teaching, and the school should make use of the teaching of “forward roll” and “shot put” to grasp the essence of sports on a deeper level till achieve the purpose of educating people. Then, the teaching and research team of physical education varies greatly. There are not the teaching and research teams of physical education in a lot of schools, and more schools can not clarify the responsibilities of the teaching and research team of physical education. One of very important responsibilities for the teaching and research team of physical education is to organize the physical education teachers to carry out the irregular theoretical study so as to let the physical education teachers study the latest pedagogical knowledge, understand the latest development trend of school physical education and actively explore how to better innovate the teaching methods and others. It illustrates on a great level that the static and conservative thinking way is difficult to adapt to the physical education needs of modern school.

## **Conclusion**

In Marxist theory view, everything is interconnected, and this kind of connection is likely to be direct, and is also likely to be indirect. The complexity thinking emphasizes the nonlinear connection between the things. The main subject and object of the education in the school physical education are both “people”. While this kind of connection between people seems to direct and linear on the surface, actually under this kind of superficial phenomenon it is full of countless subtle changes. According to the Marxist theory of contradiction analysis, the main contradiction in the school physical education is the contradiction between teachers and students, and the main aspect of the contradiction is the contradiction between the students’ all-round development and the students’ one-sided development. How to deal with the main contradiction between teachers and students and how to promote the students’ all-round development become the school physical education important factor of using the complexity thoughts to solve the problem. Of course, aiming at the research on the school physical education problem under the complexity theory it is also a kind of breakthrough of the school physical education problem for the school simple thinking theory at the same time. We should all take the various problems appeared in the school physical education as a kind of complex and integrated problems. We should actively absorb the advanced education idea to analyze it. It not only can obtain the unexpected result, but also can extend the research field of school physical education so as to provide a more solid theoretical support for the scientization of school physical education.

**References**

- [1][French] Edgar Morin. Complexity Thinking: the Self-conscious Science[M]. Translated by Chen Yizhuang. Beijing:Peking University Press,2001.06:211.
- [2][[French]Edgar Morin. An Introduction to the Complexity Thinking[M]. Translated by Chen Yizhuang. Shanghai:East China Normal University Press,2001.06:35
- [3][[French]Edgar Morin. Lost Paradigm: Research on Human Nature[M]. Beijing:Peking University Press,1999.07:173.
- [4]Lattice Moorman.The Development Trend of Pedagogy[A]. Translated by Zhao Weixian, and mainly edited by Qu Baokui. The Pedagogy Corpus——Education and Pedagogy[M]. Beijing: People's Education Press,1993.04:89.