

# Exploring the Influence of Infiltrating The History of Physics in Physics Teaching on Students

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## Abstract

This paper aims to explore the influence of permeating the history of physics in physics teaching on students. Physics is a basic discipline, which has a far-reaching impact on the development of modern science and technology and the progress of human civilization. Therefore, the historical knowledge and culture in physics teaching has become an important part that can not be ignored. This paper explores the influence of the infiltration of physics history in physics teaching on students. For many students, the history of physics is just a pile of old facts and nouns. They are not aware of the practical significance of the history of physics and its importance in the development of science today. Therefore, it is very important to infiltrate the history of physics education. This paper analyzes how the history of physics infiltrates into physics teaching, and discusses the impact of these teaching methods on students. Finally, this paper summarizes the advantages and disadvantages of infiltrating the history of physics education, and puts forward some measures to promote the history of physics education. By infiltrating the history of physics education, students can better understand the development and practical application of physics, and improve their academic interest and mastery of physics. However, it is also necessary to pay attention to the ways and methods of infiltrating the history of physics education. Different students' acceptance is also different, and it is necessary to adjust measures to local conditions. It can be seen that the infiltration of physics history education is of great help to students in mobilizing their interest in learning, improving their thinking ability and enhancing their humanistic quality. Therefore, the history of physics education should be more targeted in Physics Teaching in the future, in order to better improve the comprehensive quality and academic ability of students.

## Keywords

Physics teaching; History of physics; Student influence; Inquiry.

## 1. Introduction

### 1.1. Research background

In physics teaching, permeating the history of physics is a new teaching method. It guides students to better understand and master the basic concepts and principles of physics by introducing the history of the development of physics and the stories of important physicists. This method is widely used in various teaching fields and has achieved remarkable results.

By analyzing the history of physics, students can have a deeper understanding of the core concepts and basic principles of physics. At the same time, they can also understand the evolution process of physical knowledge and clarify the logical relationship between knowledge. This teaching method uses historical stories to arouse students' interest and curiosity, so as to stimulate their enthusiasm for learning physics and enhance their learning motivation. In addition, by studying the history of physics, students can also recognize the

scientific spirit and truth seeking attitude of the original explorers of physics, which has certain enlightening significance for the improvement of students' scientific literacy and thinking ability. However, in infiltrating the teaching of the history of physics, teachers need to reasonably use teaching methods, fully tap the physics knowledge contained in historical stories, so as to deepen students' understanding. In addition, teachers also need to pay attention to the scientificity and appropriateness of the teaching content, especially the reasonable interpretation of some historical events, so as to avoid misleading and misunderstanding students.

In a word, the analytical argument that permeates the teaching of the history of physics has significant advantages. It can help students better understand and master the basic concepts and principles of physics, and also enhance their learning enthusiasm and interest. However, in the teaching process, we need to pay attention to the rational use of teaching methods, and emphasize the scientificity and appropriateness of teaching content, so as to improve the teaching effect and learning results.

## **1.2. Purpose of the study**

The purpose of this study is to explore the impact of infiltration of physics history on students in physics teaching, in order to understand the impact of infiltration of physics history on students' learning, and further explore how to better penetrate physics history in education and teaching practice, so as to achieve better teaching effect.

## **1.3. Significance of the study**

### **1.3.1. Promote the reform of physics education and teaching**

The traditional physics education and teaching often only focus on the simple description of physical phenomena, and ignore the infiltration of the history of physics. This study can clearly penetrate the importance of the history of physics in physics education and teaching, help to promote the depth and breadth of reform in physics education and teaching, and improve students' interest and ability.

### **1.3.2. Improve students' learning interest and ability**

In physics teaching, the infiltration of physics history can not only improve students' understanding of historical background and cultural literacy, but also increase students' interest and promote students' learning enthusiasm. This study can reveal the positive effect of permeating the history of physics on students, and help to provide better teaching methods and strategies.

### **1.3.3. Promoting teachers' professional growth**

This study will deeply explore the impact of infiltration of the history of physics on students' learning, which can help teachers better understand the teaching methods, strategies and educational ideas of infiltration of the history of physics, help teachers improve their educational thoughts and skills, and promote their professional growth.

## **2. Research on the History of Infiltration Physics**

### **2.1. Research status of infiltration physics history**

Infiltration of the history of physics refers to the integration of the knowledge elements of the history of physics into the process of physics teaching. Through historical cases, experiments, literature collection and other methods, we can deeply explore the contribution of the ideas, theories and methods of the history of physics to the development of physics and its modern application, as well as the scientific social and cultural background, so as to improve students' interest in physics and discipline literacy.

At present, the research on the history of infiltration physics at home and abroad has gradually been paid attention to and achieved some results. Research at home and abroad shows that the method of infiltrating the history of physics can improve students' interest in the subject and learning effect, strengthen students' cognitive and understanding ability of physics, improve students' thinking ability and scientific literacy, and also help to improve teachers' teaching quality and teaching level.

## **2.2. Significance of penetrating the history of Physics**

The significance of permeating the history of physics mainly focuses on the following aspects:

### **2.2.1. Improve students' interest and enthusiasm in learning**

The research shows that the teaching method of infiltrating the history of physics can greatly improve students' interest in physics and learning motivation. This method focuses on integrating the development of physics and the thinking process of physicists into teaching, so that students can have a deeper understanding of physics experiments and physics research ideas. This teaching method can not only stimulate students' enthusiasm, but also increase students' understanding of physics and establish a more solid foundation of physics. Therefore, the teaching method of infiltrating the history of physics has become an important teaching mode in physics education.

### **2.2.2. Strengthen students' ability to understand and master physics knowledge**

By infiltrating the history of physics, students can understand and master physics knowledge more deeply. Students can understand the essence and scientific principles of physics knowledge through historical cases and experiments, so that students can use physics knowledge more flexibly[1].

### **2.2.3. Improve students' thinking ability and scientific literacy**

By exploring the history of physics, students can better understand the nature of scientific research and the process of scientific development. This method can not only promote students' thinking ability and scientific literacy, but also help students better understand the current situation and frontier of the scientific field. By studying the history of physics, students will understand the difficulties, challenges and achievements of scientists in scientific research. These knowledge will stimulate students' interest and exploration in science, and improve their scientific thinking and problem-solving ability. In addition, through the study of historical cases, students can also learn the scientific methodology and have an in-depth understanding of the basic laws and principles of scientific research, which will be of great benefit to their future academic and professional development. To sum up, by exploring the history of physics, students can obtain more in-depth scientific knowledge and broader vision, which will bring great help to their growth and development.

### **2.2.4. Improve teachers' teaching quality and level**

The method of infiltrating the history of physics can help teachers better understand the nature of physics and the process of scientific development, and provide teachers with more scientific teaching methods. Teachers can better understand the context of knowledge, better organize the knowledge frame in their hearts, and make the knowledge familiar in their hearts, so that they can better organize the language to teach students, and improve the teaching level and quality of teachers.

## **2.3. Insufficient research**

At present, the infiltration of the history of physics in the field of physics teaching is only in its infancy, and there are also some research gaps and deficiencies, which are specifically manifested as follows: first, the infiltration of the history of physics requires teachers to have a deeper understanding and mastery of the knowledge of physics, and puts forward higher

requirements for teachers' quality; The second is that the existing research mainly focuses on the impact of the history of physics on students and teachers, and the depth and breadth of research need to be further improved; Third, at present, the teaching method of infiltrating the history of physics has not yet formed a complete system, which requires teachers to constantly explore and innovate in the process of practice; The fourth is that the teaching method of infiltrating the history of physics needs to establish a scientific effect evaluation system in order to better evaluate the implementation effect of infiltrating the history of physics.

### **3. The Influence of Penetrating The History of Physics on Students**

#### **3.1. Knowledge understanding and ability improvement**

By infiltrating the teaching method of physics history, students can better understand and apply physics knowledge. In the process of learning the history of physics, students can understand the process and thinking mode of physicists when they study and discover physical theorems, so as to better understand the essence of these theorems. In addition, the history of physics also includes many historical events and cases of using physical knowledge to solve practical problems, which can help students apply abstract physical knowledge to reality and improve students' ability to solve problems with physical knowledge.

#### **3.2. Cultivation of students' cognition and interest in the history of Physics**

Infiltrating the teaching of the history of physics can also stimulate students' interest and motivation in learning. First, through the teaching method of infiltrating the history of physics, students can understand the development of physics and the story of great physicists, so as to cultivate students' cognition and interest in the history of physics<sup>[2]</sup>. Secondly, students can enhance their learning interest and motivation by understanding historical stories and the wisdom and courage of physicists. Finally, by studying the history of the development of physics, students' understanding of the theory of physics has been transformed from abstract concepts to specific practical cases, which has generated a strong interest in learning physics.

Physics occupies an important position in human history, and it has profound influence and enlightenment. Newton's story is a typical case in the history of physics, which has a certain enlightenment on the cultivation of students' cognition and interest.

First of all, understanding Newton's story helps students understand the basic concepts in physics. The basic concepts such as the law of gravity and the law of motion invented by Newton are the basis of the current physical system and have important enlightenment and significance. By understanding Newton's story, students can have a deeper understanding of these concepts and form a deeper understanding of physics.

Secondly, Newton's story can also stimulate students' interest in physics. In Newton's time, people's cognition of nature was very low, but through Newton's unremitting exploration and experiments, he successfully uncovered the laws of natural movement. Such a historical story is full of joy of innovation and discovery, which stimulated people's interest in exploring the mysteries of nature. When students understand Newton's story, they can also experience this deep pursuit and interest, and feel the joy and significance of exploring nature in physics.

Finally, understanding Newton's story can also cultivate students' inquiry spirit and innovation ability. At that time, after years of exploration and thinking, Newton was sitting under a tree when an apple suddenly fell and hit him on the head, so he began to think about why the apple only fell down, and thought of Copernicus' heliocentrism and Kepler's three laws, so he came to the conclusion of universal gravitation and completed his own research results. The inquiry attitude is worth learning from. When students understand Newton's story, they can also learn how to think, how to solve problems through experiments and exploration, and cultivate their innovative thinking and scientific inquiry ability.

### **3.3. Promotion of students' learning motivation and autonomous learning ability in Physics**

By infiltrating the teaching method of the history of physics, students can better understand the development process of physics, feel the importance and significance of physics, and then establish the learning motivation of physics. At the same time, students can also cultivate their thinking ability and creativity and improve their autonomous learning ability in the process of understanding historical stories and physicists' ways of thinking. In the teaching process of infiltrating the history of physics, teachers can guide students to discuss and think, and cultivate students' critical thinking and independent thinking ability. Therefore, the teaching method of infiltrating the history of physics can not only promote students' learning motivation of physics, but also improve students' autonomous learning ability<sup>[3]</sup>.

### **3.4. Help students understand physical theories and concepts, and cultivate students' scientific thinking ability and innovative spirit**

The teaching method of infiltrating the history of physics has a positive impact on students. Through the teaching of the history of physics, students' cognition and understanding have been significantly improved. Students have a deeper understanding of the historical development of physics, have a clearer understanding of the development of physics, and can better grasp the core concepts of physics theory. In physics teaching, we should not only let students master physical theories and concepts, but also pay attention to the cultivation of students' scientific thinking ability and innovative spirit. Scientific thinking ability refers to students' logical thinking, reasoning ability and experimental analysis ability when solving physical problems. The innovative spirit refers to students' independent thinking and innovative ability when exploring physical problems. The infiltration of physics history can better cultivate students' scientific thinking ability and innovative spirit.

First, the history of physics allows students to see the course of scientific development and the way of thinking scientists use to solve problems. This can stimulate students' curiosity and desire to explore, and cultivate students' interest in physical science. Students learn about the development experience of classical physics such as Newtonian mechanics and electrodynamics, and can deeply understand the basis of physics and the development of modern physics. This will enable students to better understand physical theories and concepts, and also lay a solid foundation for students' future study and scientific research.

Secondly, by studying the history of physics, students can not only understand the process of scientific development, but also understand the thinking mode used by scientists in solving problems. These modes of thinking include hypothetical thinking, experimental reasoning, induction and deduction. Students can solve problems through these methods, and can also flexibly use these methods to explore physical problems. This can cultivate students' logical thinking ability and experimental analysis ability, which is of great help to improve students' scientific thinking ability<sup>[4]</sup>.

Finally, the infiltration of the history of physics can promote students' innovative spirit. In the process of learning the history of physics, students will find that scientists need to continuously test and verify when solving problems. These attempts and experiments need to be explored and discovered constantly, which also stimulates students' innovation ability and exploration desire. In addition, in the process of physics learning, students also need to play their thinking and imagination ability to find the connection between the classroom content and the reality of life. This will stimulate students' creativity and cultivate their entrepreneurial spirit.

To sum up, the infiltration of the history of physics can better help students understand physical theories and concepts, and also cultivate students' scientific thinking ability and innovative spirit. This is of great significance for students' future study, scientific research and personal growth.



## 4. Analysis of Influencing Factors

### 4.1. Teacher factors

Teacher factor plays an important role in physics teaching. Teachers' teaching level, teaching methods, teaching attitude and educational philosophy will affect students' learning effect and interest, understanding and understanding of physics.

When exploring the influence of the history of physics on students in physics teaching, the analysis of teachers' factors can not be ignored. First of all, teachers' educational level and personal quality are one of the important factors that determine their teaching level. Teachers with a deep knowledge reserve of physics history construction, a wide range of knowledge, a higher education background and education experience can better understand the history of physics and its contribution and influence on Contemporary Physics, and better integrate the contents and ideas of physics history into teaching, so as to improve students' interest in learning and the ability to master physics knowledge.

Secondly, the influence of teachers' teaching methods and attitudes on students is also very important. Teachers with good teaching skills and methods can better organize, design and implement teaching activities that penetrate the history of physics and leave a deep impression on students. At the same time, teachers' teaching attitude will also affect students' learning effect. Teachers who love the history of physics, are serious, responsible, meticulous and patient can stimulate students' learning enthusiasm and promote students' understanding of the history of physics.

Finally, educational philosophy will also have a significant impact on Teachers' behavior and teaching quality. Teachers who master the educational philosophy related to the infiltration of the history of physics, adhere to the student-centered educational philosophy and pay attention to the cultivation of students' thinking ability and innovative spirit can better focus on the initiative, enthusiasm and creativity of students in teaching, so as to achieve better teaching effect.

Therefore, the importance of teacher factors in physics teaching is self-evident. When studying the influence of infiltrating physics history on students, we must pay attention to the role of teacher factors, summarize specific feasible methods, and improve the teaching and education level of physics teachers, so as to achieve better teaching effect.

### 4.2. Student factors

In physics teaching, students' factors are also very important. When students accept physics teaching, they will have a great influence on the acceptance of teaching content. Students' strong interest in the field of physics and their love for history and culture will directly affect their cognition and understanding of the teaching method of penetrating the history of physics. At the same time, students' learning attitude and habits will also have a significant impact on academic performance. The following is an analysis of student factors.

First, students' previous knowledge level will affect their acceptance of physics teaching. For students who have not been exposed to physics, physical concepts and physical formulas are new things, and they need to spend more time and energy to understand and master them. For students who have been exposed to physics for a long time, they are more familiar with basic concepts and formulas and can understand the teaching content faster. Therefore, in the process of teaching, teachers need to pay attention to the students' previous knowledge level, and carry out classified teaching according to the students' learning level, so as to avoid students' inadequate mastery[5].

Secondly, the interest and motivation of students have a great relationship with the enthusiasm of physics learning. If students are enthusiastic and interested in physics learning, they will devote more time and energy to learning<sup>[6]</sup>And will continue to pay high attention to the

learning content. If students lack interest and motivation, they will be bored, bored and helpless in physics learning, which will lead to great difficulty in understanding and learning. Therefore, in the teaching process, teachers need to understand students' interest and motivation, let students maintain their enthusiasm for physics learning in the learning process, encourage students to explore the application significance of physics knowledge from daily life, and enhance students' enthusiasm for physics knowledge.

Finally, students' learning methods and skills are also a very important aspect of students' factors. Different students have different learning methods and skills. Teachers need to choose appropriate teaching methods according to the situation of students. At the same time, some learning skills can also be provided to help students improve the learning effect. For example, combining with the teaching of physical history knowledge, students can better understand the concept of physics, learn the development process of physical theory, and master the efficient methods of physical knowledge.

To sum up, the student factor should not be ignored. First, teachers can adopt a variety of methods and strategies to better meet the learning needs and interests of different students. For example, in the teaching process, teachers can guide students' interactive exploration<sup>[7]</sup>To encourage students' independent discovery and thinking, so as to stimulate students' enthusiasm and interest in learning the history of physics. Secondly, in the process of physics teaching, teachers need to make teaching plans according to students' previous knowledge level, interest and motivation, learning methods and skills, so as to make the teaching process more scientific, systematic and effective. Finally, teachers can reasonably stimulate students' learning motivation, so that students can better understand the application and significance of physics, so as to achieve excellent learning effect.

### 4.3. Curriculum design factors

Curriculum design is an important part of physics teaching, which has a great impact on students' learning results. To infiltrate the history of physics into physics teaching, we need to consider the importance of curriculum design factors. In the course design of permeating the history of physics, the following conditions should be met: first, the requirements of the physics outline should be met, such as the knowledge architecture, the difficulty of the course, the learning requirements, and so on. Only in this way can students fully understand the penetration of the history of physics into physics and gain more knowledge. Secondly, the curriculum design should be consistent with students' interests as much as possible, so that students can study happily. For example, the history of physics can be combined with current practical applications to deepen students' understanding and interest in the history of physics. Thirdly, the hierarchical structure of knowledge is reasonable. By reasonably setting the hierarchical structure, students can gradually establish a complete physical knowledge structure in learning, and can better understand the penetration of the history of physics into physics. Finally, there are diversified teaching methods. In the course design of infiltrating the history of physics, we need to use a variety of teaching methods, such as teaching, experiment, discussion and so on. This diversified teaching method can stimulate students' interest and make teaching more vivid and interesting.

With the foundation of the above curriculum design, infiltrating the history of physics into physics teaching can better stimulate students' interest in learning physics and help students better understand<sup>[8]</sup>The development history of physics, so as to form a more complete physical knowledge system.

## 5. Probe into the Teaching Strategy of Infiltrating The History of Physics in Physics Teaching

The history of physics is the development of physics and an important part of describing the development of science and the history of human culture. Its role is not only to understand the past scientific exploration, but also to better understand contemporary physics. The theoretical basis for the infiltration of the history of physics into physics teaching is to recognize the potential impact of the history of physics on students' learning and interest. In practical teaching, the infiltration approach is to let students contact the facts of the history of physics at different levels in the process of learning, establish the historical background and statements, so as to better understand and apply the knowledge they have learned. In the process of exploring the influence of the history of physics on students in physics teaching, the establishment of students' autonomous learning mechanism is an important link. It can provide students with sufficient learning resources, and can also improve students' understanding and interest in physics knowledge by explaining the historical facts of physics, the discovery process of breakthrough physics theory, and the perceptual reproduction of historical situations in modern physics experiments, so as to stimulate their initiative and creativity in participating in physics learning. Secondly, adjust the course content and teaching methods to cultivate students' physical practice ability and innovation ability. Finally, it is also a very important factor to strengthen teachers' professional quality and educational philosophy. In the actual teaching, we should take a penetrating approach to let students contact different levels of physical history facts in the learning process, establish historical background and statements, so as to better understand and apply the knowledge they have learned.

### 5.1. Establish the mechanism of students' Autonomous Learning

The following measures can be taken to establish the mechanism of students' autonomous learning. First of all, we should provide students with sufficient learning resources and a good learning environment, including the collection of books in the library and the equipment in the physics laboratory, so that students can be interested in the development and history of physical science, understand the evolution of scientific methods, and improve their understanding of physical knowledge through in-depth analysis of historical events. In different learning scenes, students can experience the fun of learning physics, can improve students' initiative, and let students become the main body of learning. Secondly, teachers should play more of the role of mentors and guide students to choose their own learning content according to their own interests and hobbies[9]The teacher can provide perceptual experience, adopt the method of simulation experiment or scientific demonstration, and introduce the relevant books and documents of the history of physics, interspersed with the history of physics, to bring information about the historical background to students in the process of simulation experiment or demonstration, so as to increase students' interest and understanding of physics. Finally, for the problems encountered in students' learning, teachers should provide thoughtful help and guidance, become the guide of students' learning, cultivate students' autonomous planning ability, and promote the improvement of students' autonomous learning ability<sup>[10]</sup>.

### 5.2. Adjusting course content and teaching methods

In terms of adjusting the course content and teaching methods, we can first consider organically integrating the basic concepts and knowledge points of physics according to the development history of physics, so as to deepen students' understanding and understanding of physics. Secondly, experimental teaching and project-based learning can be used to help students have a deeper understanding of physics and cultivate students' physical practice ability and innovation ability. Thirdly, we can arrange course projects, open public course projects or special discussion courses on the history of physics, and let students learn and understand the



history of physics from multiple perspectives through a series of learning tasks or classroom activities. Finally, the teaching effect is evaluated in the teaching process in order to make corresponding adjustment and improvement. The evaluation effect is not only the degree of students' mastery of physics knowledge, but also whether students are more interested and enthusiastic in learning physics and understand the historical development of physics. First, we can use the questionnaire survey method to ask students' views and evaluations on the history of physics, so as to evaluate the effectiveness of teaching strategies. Second observation record. Teachers can evaluate the effect of the infiltration teaching strategy by observing the students' performance in the classroom, such as whether the students actively participate and show strong interest in physical history.

In physics teaching, permeating the history of physics can be a very effective teaching strategy. By introducing stories about physicists, teachers can stimulate students' attention and make them more willing to study and explore physics. For example, Faraday's story can be used to help students understand the law of electromagnetic induction, so as to further understand the way in which the magnetic field was first discovered.

Michael Faraday, a British physicist, discovered the theory of "electromagnetic induction" in 1831. This discovery is considered to be a milestone event in electricity and magnetism, which made the rapid development of electrical engineering in the mid-19th century. Faraday's experiment is based on Ernst Finkel's discovery: when a magnet moves, an electric current will be generated in the conductor close to it; This is the basis of the so-called law of electromagnetic induction today. However, the discovery of the law of electromagnetic induction did not come from experts in electrical engineering, but from Faraday's experimental research. He wanted to know what kind of electromagnetic field would be generated if the voltage was applied to the wire. He added an iron ring, placed a round frame with insulated wires on the magnet, and then inserted a magnetic grid tube into the iron ring. He observed that when current flows through the iron ring, current will be generated in the magnetic grid tube. This electromagnetic induction is proved to occur due to the change of the magnetic field, which starts with the moving magnet and then is transmitted to the wire through the interaction of the electromagnetic field.

Faraday's story can help students understand the background of the law of electromagnetic induction by telling the process of his experiment and how he found this phenomenon. Teachers can ask students some exploratory questions, such as why Faraday wanted to carry out this experiment, and whether he had done similar experiments, and ask students' conjectures about the phenomenon. In this way, students can fully understand the experimental methods of physics and science, and how the contributions of scientists help the progress of experimental research.

### **5.3. Strengthen teachers' professional quality and educational idea**

To strengthen teachers' professional quality and educational philosophy, we need to start from the following aspects. First of all, teachers should constantly improve their level of physics knowledge and pay attention to the latest developments and research results of physics education. Secondly, teachers should pay attention to personalized teaching methods, deeply understand the characteristics and needs of each student, and provide personalized teaching services for students. Finally, teachers should pay attention to the cultivation of students' comprehensive quality and the education of students' personality, emotion and values.

In a word, the key to improve the quality of physics teaching is to establish the mechanism of students' autonomous learning, adjust the course content and teaching methods, and strengthen teachers' professional quality and educational philosophy. Through these efforts, we can better penetrate the history of physics, enable students to better understand and master physics knowledge, better realize students' in-depth understanding and perceptual knowledge

of physics, stimulate students' interest in learning, enhance students' spirit of scientific exploration in physics, and lay a solid foundation for cultivating more physics talents.

## 6. Conclusions and Prospects

### 6.1. Research conclusion

Through the research on the influence of infiltrating the history of physics in inquiry physics teaching on students, we come to the following conclusion: infiltrating the history of physics can enhance students' understanding and understanding of physical knowledge, help to cultivate students' inquiry spirit and scientific thinking ability, and improve students' learning interest and achievement.

### 6.2. Experience summary

Through this study, we found that the infiltration of the history of physics into physics teaching can not only enrich students' knowledge reserves, but also stimulate students' learning motivation. In the process of teaching, teachers should pay attention to the integration and integration of historical information, so that students' absorption and mastery of knowledge have more long-term thinking and accumulation.

### 6.3. Suggestions for follow-up research

For the follow-up research work, I suggest that through the in-depth study of students' emotional cognition and self reflection in the learning process, we should investigate the impact of the infiltration of the teaching method of the history of physics on students' individual differences. At the same time, we also need to strengthen the investigation of the different needs of students of different ages. These works will help to promote the further application and improvement of the history of physics in physics teaching.

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