

# **Analysis of the Application of Comparative Teaching Method in the Teaching of Mineral Deposits**

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**Abstract:** With the development of education, mineral deposits has become an important subject in earth sciences. Because of its own particularity, teachers must conduct in-depth research on the corresponding teaching methods and teaching programs. In order to fully mobilize students' learning enthusiasm and improve students' learning ability, it is very important to memorize knowledge, understand knowledge and digest knowledge as the key points of teaching. Under this teaching requirement, comparative teaching methods can effectively solve these problems. By using comparative teaching methods, teachers can simplify mineral deposits with complex content and high difficulty. This paper briefly analyzes the application of comparative teaching methods in the teaching of mineral deposits, hoping to bring some help to teachers' improvement and innovative teaching methods.

## **1. Introduction**

With the rapid development of the social economy and the improvement of people's living standards, people's dependence on mineral resources is getting stronger and stronger. In order to meet the needs of national development, colleges and universities have begun to pay attention to the cultivation of geological talents. Whether it is from the cause of geological formation or from the perspective of exploration and development, it can reflect the value of the existence of mineral deposits and the corresponding scientific research significance.

## **2. Related Definition**

### **2.1. The meaning and connotation of comparative teaching method**

Comparative teaching methods are derived from comparative education. Comparative education was formed in France in the early 19th century and applied to France. In the context of teaching at that time, comparative education was widely recognized by the French education community, and in the actual teaching, good teaching results were obtained. Comparative teaching is a very important and most commonly used teaching method. The scope of application of comparative teaching methods is also very extensive. No matter what kind of knowledge direction content, no matter what kind of knowledge structure system, it can be infiltrated by comparative teaching. The comparative teaching method has played a role in many aspects in practical teaching. First of all, it can deepen the student's learning impression [1]. By imparting knowledge through comparative methods, teachers can enhance students' memory of what they have learned and strengthen their understanding of what they have learned. Second, comparative teaching methods can help students establish a correct learning direction. In daily learning, students are confused about the messy knowledge. Through the form of comparison, students can classify and summarize knowledge, so as to promote the formation of their own learning thinking, and find out the rules of these knowledge, and cultivate a learning method suitable for their own knowledge. Finally, comparative teaching methods can promote students' judgmental thinking and enhance students' logical and innovative thinking skills [2]. Through the use of comparative teaching methods, students can build a complete knowledge system in their minds, and learn the details of each knowledge point to learn knowledge

and application knowledge more comprehensively.

## **2.2. The meaning and connotation of mineral deposits**

Mineral deposits is an important subject in higher geology education. It mainly studies geological origin, geological conditions, geological mechanism and spatial distribution of geological resources. It can provide a reasonable and effective theoretical basis for geological exploration and geological resource exploitation in actual work. With the rapid development of the social economy and the continuous improvement of people's living standards, people's demand for various resources is also increasing. In particular, mineral resources have reached the point of urgent demand. In order to meet the economic needs of rapid development, the state has intensified efforts to cultivate comprehensive geological talents. The education department has continuously improved the comprehensive geological talents by improving and enriching the knowledge content of the geological disciplines, aiming at the unification of theory and practice. From the analysis of the nature of mineral deposits, it is not difficult to find that mineral deposits is a discipline that is very difficult and difficult to master. It requires learners' ability to remember hard knowledge, difficult knowledge, deep thinking of key knowledge, creation of applied technical knowledge, and development of knowledge in unknown fields. On the other hand, in the teaching of mineral deposits, its requirements for teachers are also very high. Due to the characteristics of this discipline and its rich theoretical and practical knowledge, it puts more stringent and stricter requirements on teachers. In the teacher's own knowledge, it requires teachers to master the knowledge structure and knowledge details. Especially for knowledge points that are confusing, teachers must have their own unique insights and corresponding coping skills [3]. In the teaching strategy, it requires teachers to continuously plan and organize teaching time and teaching content according to the system content of the textbook. By relying on the corresponding teaching methods, students can digest the most and most difficult knowledge points in the shortest time, thus improving the teaching quality and teaching effect of mineral deposits, and completing the teaching objectives of mineral deposits.

## **3. The Importance of Comparative Teaching Method in the Teaching of Mineral Deposits**

For the application of comparative teaching in mineral deposit teaching, we can analyze from the perspective of national macro, teaching and learning. From the current macroeconomic situation, China is very scarce of high-end technical talents in mineral deposits, and the development and utilization of mineral resources have not reached the world's top standards. Therefore, considering the social development and economic construction, the state must vigorously cultivate talents in mineral deposits to meet the urgently needed technology market vacancies. In the exploration of mineral resources, the state relies more on mineral science talents with comprehensive knowledge systems and strong application capabilities. These talents are often able to improve and innovate new technologies in the actual mineral work, improve the development and utilization of mineral resources, and thus ensure the steady operation of the national mineral work. Based on this background, colleges and universities must meet the needs of the country, and market demand is the breakthrough for their own development. Through continuous improvement and innovation of the teaching methods of mineral deposits, the students' learning level is continuously improved, thus providing more high-quality talents for national construction. From the perspective of teaching and learning, mineral deposits is a geological discipline with complex content and strong correlation. For a long time, mineral deposit teachers have never found a teaching method that can enhance students' memory, improve students' understanding ability and cultivate students' thinking. On the other hand, students in the minerals program have never found a good way to learn, and they are beginning to worry about how to learn mineral deposits. Therefore, how teachers teach knowledge and how students master knowledge has become an urgent problem for colleges and universities. With the application of comparative teaching methods, mineralogy teachers have found a better teaching method, and students have found a learning method that makes learning easier, making the teaching and learning of mineral deposits simple and succinct.

## **4. Insufficient Application of Comparative Teaching Method in Mineral Deposit Teaching**

### **4.1. The depth of knowledge is not enough**

As the teaching requirements continue to improve, teachers begin to improve and innovate the corresponding teaching methods. Under the application trend of comparative teaching methods, teachers have conducted in-depth research on comparative teaching methods. However, due to factors such as their own knowledge level, teachers have not fully exploited the knowledge structure of mineral deposits and have not fully realized the effectiveness of comparative teaching methods. As a result, the comparative method has become a formal teaching method, the comparison object is not clear, and there is a lack of deep content to be compared, so that the teaching effect is not satisfactory. The goal of comparative teaching method is not clear, and the content depth is not enough, it will have a serious impact on students' learning, and even make students go into the misunderstanding of learning. For example, when studying weathered deposits and sedimentary deposits, the teachers did not fully consider the connection between the two, but simply sorted out the knowledge points for students, which made it very easy for students to have confused knowledge of weathered deposits and sedimentary deposits in actual learning. Case. Because the concept of students is not strong enough, the knowledge points are not understood enough, and the teachers have no patience and careful explanation, which often makes students fall into the learning state of learning worse and worse.

### **4.2. Lack of correlation of knowledge**

There are still some teachers who do not fully implement the teaching philosophy. In order to cope with the teaching requirements, the comparative teaching method has been improved and innovated in form, so that the corresponding knowledge structure has only a superficial framework and has no more practical significance. In actual teaching, these teachers tend to pursue the beauty of form. By giving a certain summary and comparing some irrelevant and unconnected knowledge, students will not be able to grasp the clues when they study, and they will not find ideas. Some students with poor learning ability will have a learning situation of "lost watermelon and sesame seeds". In addition, in the actual teaching, in order to catch up with the teaching progress, some teachers did not strictly follow the teaching materials to teach, and added some knowledge points across the knowledge system, which brought great difficulty to students' learning.

### **4.3. Lack of consolidation of corresponding knowledge points**

Some teachers have insufficient understanding of teaching and have not conducted in-depth research on comparative teaching methods in a responsible attitude. They generally believe that as long as the knowledge points learned in the classroom are sorted out and explained, even the teaching task is completed. Comparative teaching methods can enhance students' learning ability, enhance students' memory ability and broaden students' thinking ability. However, without teaching and consolidating students' knowledge, students will gradually forget the essence and key points of comparative learning. Under normal circumstances, it is difficult for teachers to play their due role in student learning. Due to the limitations of class time, it is impossible for teachers to explain all the knowledge to each student. Only by leaving homework, students can consolidate their knowledge. As college students are in the final stage of their studies, they have become tired of learning, and with the interference of the external environment, they are not able to complete the assignments of the teachers well, thus making the comparative teaching method lose some utility. In addition, some teachers' teaching methods have not changed, their teaching methods are lacking in fun, and teaching methods are too old-fashioned, which can not attract students' attention and stimulate students' interest in learning. Coupled with the knowledge of mineral deposits is too boring, rigid, and requires too much knowledge of hard memory, which is not conducive to students' independent learning, is not conducive to the formation of students' learning thinking.

## **5. The Specific Application Strategy of Comparative Teaching Method in the Teaching of Mineral Deposits**

### **5.1. Practice of comparative teaching method in mineral deposit teaching**

As the name suggests, the comparative teaching method is to compare related objects, and to distinguish and connect different objects by studying the content of knowledge points, and to present the knowledge context to students in a more intuitive way. In the practical application of comparative teaching methods, teachers must fully grasp their internal laws and external forms. Based on this, teachers use the horizontal comparison method and the vertical comparison method in the actual mineral deposit teaching. Use horizontal comparison to show the relevance of knowledge. Use the vertical comparison method to show the details of knowledge. With the appropriate teaching methods, as well as more interesting teaching methods, continue to attract students' attention. Through more detailed explanations, students' ability to remember knowledge and the ability to understand and digest knowledge are enhanced. For example, teachers can use the relevant technical software to simulate the magma deposits and hydrothermal deposits in the deposits, and stimulate students' interest in learning. Through the high-quality, high-efficiency interaction with students based on the knowledge points gathered in the comparative teaching method, students' ability to absorb knowledge is continuously promoted. Through the detailed explanation of the genesis, background, characteristics, conditions, sources and other knowledge of the deposit, students can grasp the difficulties, confusion, and knowledge sectors that are difficult to understand, thus enhancing students' learning ability.

### **5.2. Relevant applications of horizontal comparison method in mineral deposit teaching**

Horizontal comparison method can help students build a complete knowledge system. Teachers can find common features from the associated knowledge. For example, the knowledge of weathered deposits, sedimentary deposits, etc., in the form of a table, to the students to analyze the genetic factors, background conditions, morphological characteristics, basic conditions, material sources and so on. Through careful comparison, students can understand the inner mystery of the knowledge of these deposits. Teachers can also carry out a detailed analysis of the role played by these deposits, so that students can make the basic conditions of action from the results. This not only can exercise students' anti-inferential logical thinking ability, but also deepen students' learning impression and ability to digest knowledge. Teachers can refine the knowledge points horizontally, which can help students establish a correct learning direction and develop students' learning ability. The use of streamlined and concise language to express the intrinsic connection and nature of knowledge is an important role of horizontal comparison. In the actual teaching process, in order to make the horizontal comparison method more comprehensive and visual, teachers can fill in the contents of the table and enrich the students' knowledge system. By using various teaching techniques, different colors in the form are graffitied in different colors to make the knowledge points more clear.

### **5.3. Related applications of vertical comparison method in mineral deposit teaching**

The vertical comparison method can help students enrich the detailed structure of knowledge. Through the geochemical period mineralization as the background, the geological genesis, background, characteristics, conditions, sources and other knowledge of each era are displayed, so that students can fully understand the mineral deposits. For example, teachers analyze the ages of the late Taikoo, early and ancient times, and display the characteristics of the deposits in each age by means of tables, which makes it easier for students to find problems. Under the patient's patience, students can understand the causes of these problems. Through continuous study, the physical and chemical research of geological deposits is carried out, and the detailed knowledge of each step is fully grasped, thereby stimulating learning interest and learning thinking, thereby improving their ability to solve problems. In terms of teaching, teachers combine horizontal comparison method with vertical comparison method to promote teaching effect and improve teaching quality. In terms of learning, students can use the horizontal comparison method and the vertical comparison method

to learn the three-dimensional and spatialized knowledge structure, and accurately grasp each knowledge point, so as to achieve the learning state of learning and use.

## **6. Conclusion**

In short, in the teaching of mineral deposits, the comparative teaching method can comprehensively explain the application of mineral deposit knowledge to students through comparative and comparative forms, based on dialectical unity, dialectical analysis, materialism and systematic learning processes. And the selectivity, feasibility, and effectiveness of relevant knowledge. Comparing the knowledge objects with the same law and the same research method, the students can more intuitively recognize the primary and secondary status, difficulty level and performance of the minerals related knowledge.

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