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# Exploration and Practice of the Teaching Reform of Inorganic Chemistry in University

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**Abstract:** At present, China is in the critical period of educational reform. Under the guidance of the new curriculum, inorganic chemistry teaching in universities is facing some reform, which can improve students' learning ability. Most of the traditional inorganic chemistry teaching in universities adopts the method of average to control the teaching progress and speed, but this teaching method can not meet the psychological needs of students. This paper mainly explores the advantages and methods of Inorganic Chemistry Teaching Reform in universities.

**Keywords:** University; Inorganic chemistry teaching; Reform; Practical exploration

## 1 The current situation of inorganic chemistry teaching in university

The development of science and technology and the change of society make the traditional inorganic chemistry teaching method can not meet the current students' learning requirements. Teachers must strengthen the expansion of learning channels and improve the current teaching situation combining with the students' learning ability. According to the age characteristics of college students, students should be promoted to make full use of inorganic chemistry knowledge to solve the practical problems, so that students' thinking can be changed from abstract thinking to concrete thinking. Enrich the knowledge reserve of students, break the traditional boring teaching mode and improve the traditional teaching problems. Next, this paper will analyze the current situation of Inorganic Chemistry Teaching in University[1].

## 2 Practical countermeasures of inorganic chemistry teaching reform in university

In the course of inorganic chemistry teaching, we should strictly construct the knowledge structure according to the growth of students and age characteristics, so as to promote the accumulation of knowledge. Therefore, teaching can not be simply repeated, but need to help students form good learning habits through the way of good inducement in order and optimize the teaching path. In inorganic chemistry teaching, we should pay attention to the development of reasoning ability and logical thinking ability. Teachers should emphasize knowledge structure through the guidance of inorganic chemistry knowledge, and help students develop good learning habits.

### 2.1 Pay attention to the cultivation of students' innovative thinking of Chemistry

College students are active in thinking, whether in study or in ordinary life, they like to be free of the sky. But in teaching, it is difficult to combine basic knowledge with practice. Therefore, teachers need to change the traditional teaching concept, pay attention to guide students' thinking, and cultivate students' ability to analyze and solve problems. However, because of the great differences in the understanding ability of different students, the use of a unified teaching method will limit the learning of some students. Therefore, different teaching modes can be formed by teaching according to their aptitude according to their students' actual situation, so as to promote the students to build their own knowledge system, fully respect the main position of students and stimulate their learning potential, In order to make students master the theoretical knowledge comprehensively, they will apply these knowledge to practice. Teachers should first make clear the teaching objectives in teaching, and make personalized teaching objectives and teaching plans based on fully understanding students' learning ability and learning level, so as to create a good learning environment for students and promote the continuous development of students [2]. At the same time, because of the level of students' learning ability, teachers can promote students' continuous progress by encouraging teaching methods, and set teaching content and evaluation standards combined with different levels of students. Finally, the teaching work is carried out in combination with the students' interests and psychological needs to improve the teaching effect of inorganic chemistry.

### 2.2 Cultivate the spirit of cooperation of students

In the teaching of inorganic chemistry in Colleges and universities, teachers can carry out targeted teaching activities by group teaching on the basis of fully understanding the learning characteristics and learning ability of each student. The comprehensive strength difference among each group should not be too large, otherwise the overall learning ability of some groups will be reduced. In teaching, teachers can reserve enough time for each group to explore independently, throw out some problems, ask students to


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think about chemical problems and discuss them. In the process of communication and discussion, students' thinking collision will be aroused and students' thinking inspiration will be aroused. At the same time, the communication among groups and the reference of various ideas can also promote the improvement of students' independent thinking ability and provide reference for the improvement of students' independent inquiry ability. The traditional teaching methods of inorganic chemistry in Colleges and universities mainly adopt the way of teacher explanation. Students are attracted to the teaching. Students can only follow the teachers' ideas and can not form the mode of independent thinking. In the current education, we emphasize the independent thinking of students, which provides students with more space for thinking. Group teaching can complete the independent inquiry through the communication between students at different levels. Combining with the students' ability and advantages, we can reasonably allocate the exploration tasks, discuss together after completing their tasks, and improve their interest in learning. And the students in a group belong to the same group, which makes the students exert their potential under the influence of collective honor.

### 2.3 Strengthening the reform of Inorganic Experiment Teaching

Inorganic chemistry is a practical subject, which involves more experimental content, so the inorganic chemistry experiment teaching is particularly important for the cultivation of students' learning ability of inorganic chemistry. In order to strengthen the experimental link, teachers should first ensure the rigor of the experiment and stimulate the students' creative thinking and experimental skills. In order to achieve better experimental results, we should strengthen the reform and innovation of inorganic chemistry content, and adopt different experimental methods in combination with different majors and grades. Try to reduce the experimental verification, improve the proportion of comprehensive experiments, and promote the students' exploration in the experiment. For example, for students who have just begun to contact inorganic chemistry experiments, they can start from basic instrument operation, such as balance weighing, measurement of molar gas constant, etc. Through these experimental methods, students can master the basic experimental operation skills. In the comprehensive experiment, the limited analysis of potassium oxalate and iron can be selected. In addition, the experiment can improve the students' experimental skills, guide them to choose their own topics based on the learning content, or participate in the teacher's research projects after having a certain learning foundation, and carry out the experiment by consulting the data by themselves[3].

### 2.4 Focus on the combination of teaching and Practice

Chemistry is more applicable, and it can not be limited to theoretical study in chemical research, but also needs to be deeply into daily life to promote the close relationship between chemical knowledge and life. In the inorganic chemistry teaching, teachers should combine the classroom knowledge with modern chemical production to improve students' chemical application ability and interest in learning. Inorganic chemistry has direct relation with industrial production, and teachers can introduce the contents of industrial production to explain to students. For example, in the study of lithium-ion, nickel hydrogen battery and other battery chemical reactions, teachers can introduce positive and negative materials of batteries, and analyze the advantages and disadvantages of different battery materials. The introduction of living content will stimulate students' interest in listening to the class, and provide theoretical support for the study of oxygen reduction reaction[4].

## 3 Conclusion

In conclusion, there are still many deficiencies in the development of Inorganic Chemistry Teaching in University, which leads to the boring teaching form, obsolete teaching methods, and difficult to meet the current teaching requirements and the personalized development of students. Therefore, teachers should combine the modern teaching concept, change the traditional teaching methods, strengthen the teaching reform, provide more independent exploration and practical opportunities for students, enable students to flexibly apply the knowledge they have learned to deal with the problems in life, expand their chemical thinking, improve the learning ability of inorganic learning, and meet the requirements of new curriculum teaching.

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