

Research on the Effective Combination of Analytical Chemistry and Ideological and Political Education in the New Era

Ting Xue

Zibo Vocational Institute, Zibo 255314, China.

Abstract : In recent years, China has been committed to the quality education reform process, ideological and political education has become an important part of the current teaching. We must attach great importance to, can not be ignored. Under the new situation, schools should adhere to moral education, pay attention to ideological and political work, and implement it in the whole education process, to achieve "all round" education. In the teaching process of analytical chemistry courses, teachers should integrate it with ideological and political education. It is necessary to cultivate students' solid professional knowledge and exercise students' thinking ability, but also pay attention to the cultivation of students' comprehensive quality. For now, this part is still relatively weak and needs to be further strengthened. Adding ideological and political education content to analytical chemistry courses is not a simple task. It has certain complexity and needs to be controlled from many aspects.

Keywords: Chemistry and Ideological and Political Education; Effective Combination; New Era; Analysis

1. The necessity of the integration of analytical chemistry curriculum and ideological and political education

It is very necessary to integrate ideological and political education into the course of analytical chemistry. It not only meets the requirements of my country's modern education reform and conforms to the development trend of the times, but also helps to promote the sustainable development of modern education and meet the needs of quality education. Ideological and political education is not just the teaching content of political courses, it should be the task of every professional course teacher. Teachers need to infiltrate ideological and political elements in their respective classrooms, guide students subtly, help students establish correct values, and cultivate students' good professional ethics. Especially in the classroom teaching of science and engineering, most of the time teachers mainly focus on professional knowledge explanation. Both teachers and students only focus on the cultivation and learning of professional skills, but ignore the comprehensive quality of students^[1].

2. Problems existing in ideological and political education in analytical chemistry courses at this stage

At this stage, there are still some problems in the ideological and political education of analytical chemistry courses, which need to be further solved. The main problems are: First, some teachers do not realize the importance of curriculum ideological and political education. Some teachers did not implement the requirements of quality education, ignored the cultivation of students' ideology and morality, and only focused on the explanation of professional knowledge and the imparting of skills. They believe that ideological and political education is only the work of teachers of ideological and political courses. They have not incorporated appropriate ideological and political elements into the course of analytical chemistry, and have not given full play to the guiding role of teachers. Second, the current teaching mode is too backward and single, which cannot stimulate students' interest in learning. Moreover, some teachers have insufficient knowledge of curriculum ideological and political education, fail to encourage students to actively participate in curriculum ideological and political education, and fail to guide students to think deeply; Third, the integration of professional education and ideological

and political education is not enough. In most cases, the teaching design of analytical chemistry courses includes two aspects, one is general education, and the other is professional education, and there is a lack of effective integration between the two types of courses. Teachers have not dig deep into the content related to curriculum ideology and politics, and sometimes use strong indoctrination to conduct curriculum ideological and political education, which is not only ineffective, but also easily causes students' bad emotions.

3. Effective measures for the integration of analytical chemistry curriculum and ideological and political education

3.1 Strengthening teachers' political awareness and giving full play to the role of teachers

The integration of ideological and political education in analytical chemistry courses is inseparable from the role of teachers. Teachers' personal behavior and quality will have a subtle impact on students. On this basis, in the teaching process, teachers should lead by example and give students a good demonstration role to earnestly complete the task of chemistry curriculum analysis and provide correct guidance for students' ideological and life development. In order to implement the relevant policy requirements and convey the spirit of important discourse, teachers must establish a new teaching concept, abandon outdated teaching concepts, continuously enhance political awareness, and allow ideological and political education to penetrate into the chemistry major. In order to avoid students getting bored in this process, teachers should dig out and analyze the knowledge points in the chemistry course, find out the ideological and political elements related to them, and give appropriate explanations to social hot issues ^[2].

For example, ideological and political elements can be incorporated when learning about the detection of pesticide residues in vegetables. While teaching students the concepts and techniques of pesticide residue detection, it can also make students clear the necessity of pesticide residue detection, explain to students the important role of chemistry in people's clothing, food, housing, transportation, industrial development, and technological development, and guide students to establish a scientific outlook.

3.2 An Innovative Model of Chemistry Course Teaching

The traditional teaching mode of analytical chemistry courses has obviously been unable to adapt to the current teaching needs. If teachers still teach on the podium and students listen to the lectures under the podium, it is difficult to stimulate students' enthusiasm for learning and achieve the expected teaching goals. Based on this, teachers should change the traditional teaching mode and innovate constantly. On the basis of the development needs of talents in the new era, teachers should also innovate the teaching methods of analytical chemistry courses. In the actual teaching process, teachers can use heuristic teaching and task-driven teaching to give students targeted teaching, guide students to learn relevant knowledge and actively think about the ideological and political issues contained in these knowledge points. In this way, students' interest in learning is cultivated and good conditions are created for the development of ideological and political education. The new study mode of analytical chemistry course requires students to preview before class so that they can master the basic classroom teaching content. Teachers can use modern science and technology to make relevant videos and materials about the content to be explained, and distribute them to students, laying a solid foundation for interactive learning in classroom teaching.

For example, when teachers explain the knowledge of analytical chemistry courses, they can introduce the relevant deeds of analytical chemists in my country. For example, Academician Gao Hong learned about his contribution to analytical chemistry and his personal spiritual character by excavating his life stories, in order to interpret the spirit of a scientist and cultivate students' good qualities, such as rigorous and realistic, pioneering and innovative, and enthusiasm for serving the country.

3.3 Improve the ideological and political quality of analytical chemistry

courses

Each course covers certain elements of ideological and political education, and the same is true for analytical chemistry courses. The teaching knowledge involved in it contains rich ideological and political education content, which can highlight the awareness of the rule of law, humanistic spirit, and social responsibility. Therefore, in the teaching of analytical chemistry courses, attention should be paid to the integration of ideological and political education, and the emphasis should be placed on the word "integration", so as to effectively combine the two and improve students' enthusiasm for learning. In the course of teaching analytical chemistry courses, teachers should improve students' problem-solving ability based on the content of the lectures and the actual life of students, so that they can use the knowledge of analytical chemistry courses they have learned to solve practical problems^[3].

For example, when explaining the knowledge points of the detection of trace heavy metal pollution in the environment to students, the theoretical guidance that General Secretary Xi Jinping emphasized that "lucid waters and lush mountains are invaluable assets" can be incorporated into it. This not only strengthens students' awareness of environmental protection and makes them fully aware of the need to reduce pollution, but also encourages students to start from themselves and contribute to environmental protection.

3.4 Ideology and politics course with the help of smart teaching platform

In the teaching process, we must always keep pace with the times and learn new technologies and new teaching modes, such as "rain classroom" and "love classroom" and other smart teaching methods, which are good means to carry out ideological and political education. Introductions in chemistry courses can stimulate students' interest in learning and increase their engagement. We use an intelligent education platform to introduce interactive discussions and learning within an online framework. For example, we can push preview courseware or short stories of scientists to students through "Rain Classroom", and send audio files to make learning easier and more effective. For another example, in the teaching process of "Love Classroom", knowledge can be tested at any time, instant feedback can be obtained, and students can express their opinions and feelings.

All in all, the gradual integration of ideological and political education in chemistry teaching is a step-by-step process, mainly because the teaching content in the early stage involves less, and teachers need to gradually explore it in the teaching process to further deepen the ideological and political education. At the same time, it is also necessary to recognize the important impact of ideological and political education on chemistry teaching. Different teachers use different teaching methods in the teaching process. Only by in-depth exploration of them can we gradually improve the quality of chemistry teaching and promote the development of chemistry teaching. Students also need to realize the importance of ideological and political teaching in the process of learning. Classroom ideological and political teaching is the general trend of current teaching development, which has a positive impact on the future growth and development of students.

References

- [1] Zhang, G.F., Xu, J.Y., Hu, F., Cai, Y., Exploration on the ideological, political and educational reform of the professional basic course *Material Physical Chemistry*[J]. Guangdong Chemical Industry, 2021, 48(12):223+256.
- [2] Zhen, Y., Tao, F., Preliminary exploration on the ideological, political and educational reform of the *Organic Chemistry* course in the professional group of food and medicine in higher vocational colleges[J]. Guangdong Chemical Industry, 2021, 48(04):173-174.
- [3] Wang, Y., Exploration and research on the integration model of college English teaching and ideological and political education [J]. Advances of Higher Education, 2019,2(6).