Current Situation and Optimization Strategy of Earth Science Talents Training in Colleges and Universities

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Abstract: After a lot of analysis and exploration, the researchers said that at present, there are still some shortcomings in the process of developing the earth science talents training in Chinese universities, which leads to the relatively low level of the earth science talents training, which is not conducive to the cultivation and construction of the earth science talents, and has a very adverse impact on the development of China’s earth science field. To solve this problem, college teachers should actively change and innovate their teaching ideas, so as to effectively realize the transformation of earth science talents training mode, and lay a solid foundation and guarantee for the construction of earth science talents in China. In this paper, the development of geoscience talents education in colleges and universities in China at present is analyzed, and the corresponding countermeasures are put forward in combination with teaching practice, aiming at further realizing the cultivation of geoscience talents, thus delivering fresh blood for the development of geoscience in China.

Keywords: Earth Science; Teaching Essentials; Development Status; Optimization Strategy

The researchers said that in the teaching process of colleges and universities, as one of the important teaching contents, the development and implementation of earth science teaching work has an important impact on China’s earth science research work[1]. However, at present, due to the deep-rooted influence of traditional educational ideas, some teachers have not effectively realized the reasonable play of the value of students in the teaching of earth science in colleges and universities, which leads to some deficiencies in the relevant teaching work and limits the promotion and optimization of the training level of the earth science talents in China. In view of this problem, the researchers said that university teachers should actively make reasonable changes in teaching concepts, so as to actively promote the cultivation and construction of earth science talents.

1. University earth science professional personnel training development status

1.1 Teachers’ traditional teaching concept that is not conducive to the students’ subjective initiative

From the perspective of teaching work, in the process of efficient teaching, as the main organizer of earth science teaching, teachers’ educational ideas often have an important impact on teaching. However, at present, due to the deep-rooted influence of traditional educational ideas on college teachers, some college teachers are often unable to reasonably realize the effective design of teaching work while carrying out teaching work, which leads to the weakening of teaching efficiency[2].

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In view of these problems, the researchers said that because teachers’ teaching philosophy is relatively traditional, it is difficult to pay reasonable attention to the value of students in the teaching process of enterprises, which is not conducive to the development of teacher-student interaction, thus adversely affecting the improvement of teaching efficiency.

1.2 A single classroom teaching model that is not conducive to creating a good learning atmosphere

At present, in the process of earth science teaching, the teaching mode applied by some teachers is relatively simple, mainly based on traditional cramming teaching\(^3\). Based on this, in the teaching process, the interest of related teaching work is weak, which is not conducive to the reasonable cultivation and mobilization of students’ interest in learning, and hinders the creation of a good teaching atmosphere. At the same time, due to the relatively simple teaching form, it is often difficult for students to fully understand and reasonably understand the relevant earth science knowledge, which has adversely affected the improvement of students’ knowledge mastery level.

1.3 Outdated content of teaching resources that is not conducive to the cultivation of students’ comprehensive ability

A large number of investigations show that at present, the teaching contents of some disciplines are relatively old in the teaching of earth science in colleges and universities in China, which makes it difficult for students to master the advanced technical knowledge reasonably and has caused extremely adverse effects on the training and construction of China’s earth science talents\(^4\). For example, in the teaching process of geology and geophysics, there is a certain gap between the relevant teaching materials and the current social technology, which leads to a certain lag in students’ learning technology and is not conducive to the reasonable development and implementation of students’ follow-up research work.

1.4 The lack of evaluation of teaching work that is not conducive to the reasonable improvement of teaching methods

Researchers pointed out that, at present, in the process of earth science teaching in colleges and universities in China, some teachers did not effectively implement the teaching evaluation link while carrying out the teaching work. Based on this, it is often difficult for teachers to reasonably realize the full understanding and reasonable mastery of students’ knowledge, which is not conducive to the effective adjustment and transformation of the follow-up teaching work and adversely affects the pertinence of teaching work. At the same time, for students, due to the lack of teaching evaluation, it is often difficult for students to discover and solve the deficiencies and understanding defects in their own knowledge framework in time, which has a negative impact on the formation of students’ knowledge literacy.

2. Relevant strategies to optimize the quality of personnel training for earth science majors in colleges and universities

2.1 Reform of educational philosophy and full mobilization of students’ thinking

For college teachers, in order to effectively realize the cultivation and construction of China’s earth science talents, teachers should actively change their own educational ideas in the teaching process, so as to fully recognize the significance and value of students in the teaching process, so as to provide a good guarantee for students’ participation in the teaching process and the full cultivation of students’ thinking. For example, in the process of teaching geology, teachers can communicate and interact with students in the form of asking questions, so as to guide students to better think about geological problems, and then help students to cultivate their thinking ability in geology, thus laying a foundation for the improvement of students’ comprehensive quality in earth science. Practice shows that through the development of teaching exchange, students’ classroom participation has been reasonably improved, thus further realizing the effective cultivation of students’ comprehensive quality of earth knowledge.

2.2 Exploring the teaching model and promoting the cultivation of students’ spirit of exploration

In the teaching process, aiming at the poor teaching
atmosphere caused by the single teaching mode, teachers should effectively explore and improve the teaching mode, so as to promote the diversified development of the teaching mode and guide students to better participate in the teaching process, and realize the cultivation and optimization of their own knowledge literacy in the teaching process. On doing one thing, teachers can further help students to learn earth science knowledge and cultivate their interests by changing the teaching mode, which is of positive significance to the development of students’ independent inquiry. For example, in the process of teaching marine science, through the application of multimedia equipment, teachers can use the network teaching model to display ocean current knowledge and tide knowledge, so as to help students understand earth science knowledge more intuitively by using relevant models. In this process, by organizing students to practice in groups, teachers can further guide students to realize full understanding and reasonable cognition of earth science knowledge.

2.3 Actively carrying out teaching resources to promote the expansion of students’ knowledge reserves

The researchers said that for the current shortage of earth science teaching resources in colleges and universities in China, teachers should do a good job in exploring and analyzing related work, so as to develop more learning resources for students, so as to help students achieve a more comprehensive understanding of earth science knowledge[5]. For example, in the process of teaching environmental science knowledge, by introducing and applying new environmental technologies, teachers can help students better understand and master the advanced earth science knowledge, which is of great significance to the training and construction of China’s earth science talents. At the same time, through the development of a large number of teaching resources, teachers can further realize the reasonable extension of teaching knowledge in class, which has positive significance and value for the cultivation and construction of students’ inquiry learning ability, and plays a good role in promoting the cultivation and optimization of the professional ability of China’s earth science talents.

2.4 Improving the teaching evaluation system and making scientific adjustments to teaching methods

In the teaching process, in order to better realize the rational training of earth science talents, teachers should actively carry out and implement the teaching evaluation, so as to further evaluate the cultivation of students’ earth science literacy, and carry out reasonable reform and adjustment of teaching methods according to the actual situation of students[6]. After a lot of practice, educators say that through the implementation of teaching evaluation, teachers can better realize the establishment and improvement of teaching emphasis, which is of great significance to the cultivation of students’ earth science literacy. At the same time, in the process of teaching evaluation, teachers can help students better understand their shortcomings in the process of learning earth science knowledge and point out the learning direction for students, which is of positive significance for improving students’ learning efficiency.

3. Conclusion

As one of the seven basic disciplines, the development of earth science is closely related to human survival. In recent years, with the improvement of life quality, the people’s attention to earth science has been continuously strengthened, which has effectively promoted the development and implementation of earth science teaching in China[7]. In this process, in order to effectively realize the cultivation and construction of China’s earth science talents, university teachers should actively explore reasonable reflection on teaching work in combination with teaching practice, so as to further realize the innovation and improvement of teaching work mode, and lay a solid foundation and guarantee for the promotion and optimization of the comprehensive level of teaching work. In terms of concrete practices, teachers should adjust and reform the teaching mode from the aspects of teaching philosophy, teaching methods, teaching resources and teaching evaluation in combination with objective conditions, so as to lay a foundation for improving and optimizing the comprehensive quality of teaching work.

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