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The Development Status, Existing Problems and Optimization Path of Ideological and Political Education in College Physics

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Abstract: In recent years, the construction of ideological and political courses has been raised to a new height on important occasions such as the National Conference on Ideological and Political Work in Colleges and Universities and the National Education Conference. At the 20th National Congress of the Communist Party of China (CPC), it was proposed to implement the fundamental task of establishing morality and cultivating people. College physics is the foundation of science and engineering and a required course for students. In the new era, promoting the high-quality development of college physics curriculum is the key field and important link for colleges and universities to systematically promote the ideological and political work of the curriculum.

Keywords: College Physics; Curriculum Ideological and Political; Ideological and political education.

1. Current situation of ideological and political construction

Since 2004, the central government has issued relevant policy documents to encourage and support the strengthening of ideological and political education for college students. In 2014, Shanghai took the lead in strengthening the construction of "curriculum ideological and political education" in the comprehensive reform of education, taking "establishing morality and cultivating people" as the fundamental task of education, and determining that the core of education is "educating people first and moral education first". Under this background, the concept of "curriculum ideological and political education" has begun to take shape. Physics is a discipline that studies the most general laws of motion and the basic structure of matter. It is an important basis for other natural science disciplines, and has rich elements and resources for ideological and political education. In the new era, how to better integrate the discipline construction of physics specialty with the ideological and political elements of the curriculum and promote the high-quality development of college physics curriculum is an important responsibility of educators.

The ideological and political connotation of the curriculum is rich, and it is constantly deepening and developing with the requirements of the times. Gao Deyi and Zong Aidong believed that the essence of "ideological and political education in curriculum" was to integrate ideological and political education in colleges and universities into all links and aspects of curriculum teaching and reform, so as to achieve the goal of cultivating morality, cultivating people and making things sound[1].Qiu Weiguang believes that "curriculum ideological and political education" refers to that college teachers, on the basis of imparting curriculum knowledge, guide students to transform the knowledge they have learned into internal virtue, into the organic composition of their own spiritual system, into a quality or ability of their own, and become the basic ability and method for individuals to understand and change the world [2].He Yuhai interpreted "curriculum politics" from the perspective of curriculum theory, That is, "through the operation of the entire curriculum, namely the explicit curriculum (including the ideological and political education theory curriculum and the curriculum of various disciplines) and the implicit curriculum (including the material, spiritual, behavioral, and institutional hidden curriculum), with the participation of all staff, students are provided with an all-round and whole process of ideological and political education activities and processes" [3].Wang Xuejian and Shi Yan analyze curriculum ideological and political education in the new era from the perspectives of essence, concept, structure, methods and thinking. They believe that the essence of curriculum ideological and political education is to establish morality and cultivate people, the concept is to cultivate people through collaboration, the structure is three-dimensional and diversified, the method is a combination of explicit and implicit, and thinking is scientific innovation [4].To sum up, experts and scholars have made many explorations around the ideological and political education of the curriculum, and interpreted and explained the ideological and political education of the curriculum from various angles. For the ideological and political education of the physics discipline, the key is to achieve the organic integration of the two elements, fully tap the ideological and political elements of the physics discipline, mobilize the enthusiasm of teachers and students, and realize the transmission of ideological and political ideas in professional courses, and learn professional courses in the ideological and political education.

2. Problems in Ideological and Political Education of College Physics

2.1. Insufficient guarantee for ideological and political construction of curriculum

The school is the baton of ideological and political construction of the curriculum. The promotion process of curriculum ideological and political education in colleges and universities is relatively short, and the conditions are relatively insufficient. This is reflected in the fact that there is often a "guiding outline" in the overall design, and there is a lack of specific plans to implement curriculum ideological

and political education in practice. There is also a certain vacancy in the training of teachers' curriculum ideological and political education. Insufficient attention has been paid to curriculum ideological and political education. Some successful cases and methods of curriculum ideological and political education in colleges and universities have not been systematically and comprehensively used for reference, the exploration and implementation of ideological and political curriculum in colleges and universities are not effective.

2.2. Some teachers have weaknesses in the integration of physics curriculum and ideological and political teaching

The ideological and political development of college curriculum is constantly deepening, and it is difficult for some teachers to change their teaching ideas. Their own limitations are large. There are problems such as "not knowing how to teach, and the method is not in place", and even the phenomenon of intermingling and disjointed. It is difficult to achieve the effect of integrating the teaching of physics professional courses with the ideological and political education of the curriculum. This poses new challenges to the ability level and knowledge structure of college physics teachers.

2.3. There are "two skins" between physics teaching and ideological and political education

Professional courses, especially physics, which is a public basic course of science and engineering with strong specialty, pay more attention to the teaching of professional knowledge, and often neglect the guidance and cultivation of students' values, leading to the separation of "teaching" and "educating" goals. This mode of focusing only on the cultivation of students' intelligence and ignoring the cultivation of ideals and beliefs violates the mainstream concept of "educating people first and moral education first" in the new era.

3. Optimization path of ideological and political education in college physics

3.1. Strengthen the school's emphasis on curriculum ideology and politics

The school should give full play to its leading role in promoting the ideological and political education of the curriculum, take the ideological and political education of the curriculum as an important indicator of evaluation, constantly optimize and adjust the curriculum quality evaluation structure, focus on process assessment, and take the ideological and political education of the curriculum as an important monitoring point of teaching process management and quality evaluation. In depth investigation and research at the basic level of teaching, formulate corresponding policies according to the pain points and difficulties of curriculum ideological and political construction, fully mobilize the enthusiasm of teachers, and do a good job in ensuring the resources of curriculum ideological and political construction.

3.2. Improve physics teachers' new ability of thinking and politics

Teachers play an important role in guiding the integration of physics discipline and curriculum ideology and politics, and are important guides for the healthy growth of students' minds. Practice shows that teachers' thinking, ability, quality and style are "invisible textbooks" for educating students, and have a "great influence" on students [5]. The ideological and political curriculum should take the lead in opening a breakthrough from teachers. Teachers themselves should first establish and firm correct ideals and beliefs, constantly cultivate and enhance family and country feelings and social responsibility, and lead students to shape correct world outlook, outlook on life, and values through personal practice. Secondly, we should constantly strengthen the ideological and political teaching ability of the course, actively participate in teaching training, ideologically recognize the core concepts, methods and methods of ideological and political education of the course, and combine our own teaching practice to achieve a better integration of physics courses and curriculum ideological and political education.

3.3. Comprehensively promote the organic combination of ideological and political education and college physics

The person in charge of the Ministry of Education pointed out that 80% of college teachers are professional teachers, 80% of courses are professional courses, 80% of students' learning time is used for professional learning, and professional course teaching is the most important support for curriculum ideological and political education. It can be seen that we must integrate ideological and political education into the whole process of classroom teaching. In the discipline of physics, it is necessary to comprehensively use theoretical courses and experimental courses, deeply tap the elements of ideological and political education, give play to the dual platform role of physical experimental course practice and testing course ideological and political education, fully mobilize students' enthusiasm, create a good classroom atmosphere, and jointly participate in the curriculum ideological and political education.

4. Conclusion

At present, there are many problems in college physics, such as insufficient guarantee for the ideological and political construction of the curriculum, weak points of some teachers in the integration of physics curriculum and ideological and political education, and the "two skin" phenomenon between physics teaching and ideological and political education. It is necessary to strengthen the school's emphasis on curriculum ideological and political education, improve the new ability of physics teachers in curriculum ideological and political education We should promote the organic combination of ideological and political education and college physics in an all-round way to promote the high-quality development of ideological and political education in college physics.

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