

Quality Improvement of Ideological and Political Education for Science and Engineering Postgraduates under the Background of Emerging Engineering Education

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Abstract: With the continuous development of educational reform, the ideological and political education of postgraduates has gradually received attention. Integrating ideological and political education into the classroom teaching of colleges and universities is an important way to strengthen the ideological and political education of postgraduates in colleges and universities. This paper discusses the practical need to improve the quality of ideological and political education for science and engineering postgraduates, analyzes the necessity of quality construction of ideological and political education for science and engineering postgraduates, investigates the current implementation path for improving the quality of ideological and political education for science and engineering postgraduates, with a view to improving the quality of ideological and political education among science and engineering postgraduates.

1. Introduction

The construction of emerging engineering education is a major action plan to continuously deepen the reform of engineering education on the basis of "Excellent Engineer Education and Training Program". In the face of the increasing demand for high-level and innovative talents under the background of emerging engineering education, postgraduates are the main reserve force of high-level talents and the top force for realizing the Chinese dream. According to the development needs of "emerging engineering education", we should innovate the ideological and political education of science and engineering postgraduates in colleges and universities from different aspects, give full play to the important role of "ideological and political courses" in the cultivation of talents in colleges and universities, convey the comprehensive education concept of "fostering virtue through education" as the fundamental task of education, strengthen postgraduate ideological and political education, which carries far-reaching significance.

2. The Necessity of Improving the Quality of Ideological and Political Education for Science and Engineering Postgraduates in Colleges and Universities

2.1 Promote the Reform of Educational Concepts in Colleges and Universities, and Foster the Development of Postgraduates' Thinking Ability

Due to the characteristics of the majors selected by science and engineering postgraduates, students will put more energy on scientific research and exploration, and colleges and universities will also pay too much attention to the cultivation of scientific research ability of science and engineering postgraduates, but ignore the development of ideological and political education. Under the background of the increasingly refined disciplines and majors and the alienation of educational systems and values, the alienation of educational goals and the lack of fields make it difficult for science and engineering postgraduates to receive ideological and political education [1]. With the deepening of postgraduate understanding, interdisciplinary exchanges, interprofessional cooperation, and interdisciplinary penetration have increasingly become the norm. Ideological and political education, as an educational activity for cultivating spiritual beliefs, shaping and perfecting personality, and cultivating a moral life style, covers and penetrates into all levels of education and practice. At the same time, postgraduates also need to open their minds through these comprehensive educational processes, think about what they have learned, what they have seen, and what they have learned, thereby achieving the growth from internalization to externalization.

2.2 Promote the Growth of Teachers and Establish the Correct Thinking Direction among Postgraduates

In the new era, the ideological and political work environment is very complex in colleges and universities, and the subject, object, content and method of education have undergone new changes. Political education should adapt to the educational goals of ideological and political education construction in our times. Colleges and universities should always adhere to the basic viewpoints of Marxism, cultivate and carry forward the core socialist values. Second, we must adhere to the correct political direction. Postgraduate tutors should establish correct moral and political concepts, so as to guide postgraduates correctly. Third, we must always respect our unique historical culture and national conditions. Seen from the overall needs of society and the nature of education, ideological and political education carries the inherent meaning of all courses. Only by ensuring that teachers have a deep understanding of the nature and meaning of education can we promote the effective operation of the educational community and then promote the improvement and development of students' thinking ability.

2.3 It is the Inherent Requirement of Postgraduate Ideological and Political Education

Compared with general curriculum education, ideological and political education has its particularity and plays an important role in shaping people's values and outlook on life. The purpose of ideological and political education is to achieve social progress and all-round development of postgraduates. The purpose of training, the method of training and the object of training are the issues that education circles and educators generally think about. Only by thinking clearly about these issues can we proceed to the next step.

3. The Implementation Path for Improving the Quality of Ideological and Political Education among Science and Engineering Postgraduates in Colleges and Universities

3.1 Enrich Teaching Content and Innovate Teaching Methods

If teachers' teaching methods observe all rules and regulations, it not only makes postgraduates unable to learn knowledge actively, but also makes postgraduates feel pressure when studying professional courses. In this way, teaching of college courses is only to meet the requirements of postgraduate examinations and academic studies, but cannot make postgraduates truly master knowledge, not to mention flexible application and comprehensive study [2]. Not only that, the teaching content of conventional professional courses is relatively monotonous, and the teaching methods are relatively simple, but quality improvement of ideological and political education requires teachers to integrate knowledge and ideological and political content in teaching, and to educate and guide postgraduates in world outlook, outlook on life, and values. In order to better construct the ideological and political course, teachers should also change the teaching method according to the characteristics of postgraduates, thereby enhancing the classroom teaching interest. Regardless of professional classroom or ideological and political classroom, if teachers simply teach boring professional knowledge or ideological and political knowledge, the classroom teaching atmosphere will be too boring, and postgraduates will not be able to listen at all, let alone understand and master it. Therefore, when integrating the ideological and political concepts of courses into college classrooms, teachers should think more about what kind of examples and teaching methods can be used to stimulate the learning interest of postgraduates. Teachers can also reasonably arrange the ideological and political content of courses according to the characteristics of postgraduates, introduce ideological and political education in a more novel and interesting way when it comes to relatively boring knowledge, let postgraduates analyze from the perspective of their major and actively express their opinions. The school can also combine the characteristics of the school to carry out novel and interesting thematic teaching activities, attract postgraduates to participate in the activities, and then achieve the goal of all-round education. At the same time, teachers should explore the combination of professional knowledge and ideological and political education content according to different teaching contents, thus increasing the classroom teaching capacity.

3.2 Tap the Connotation of Education and Strengthen Practical Teaching

Colleges and universities need to fully tap the educational connotation of ideological and political education with professional core courses as a starting point, further expand the value of courses from the dimension of coordinating education, develop ideological and political educational resources, integrate ideological and political education content, and combine "knowledge transfer" with "value orientation" [3]. Students of different grades have varying degree of attention and satisfaction for "ideological and political course", so colleges and universities should carry out different "ideological and political" activities in different phases. Based on the actual situation of colleges and universities, the three-year study and internship plan for postgraduates is divided into three parts. The first part of the course is mainly based on public courses and professional basic courses. Schools can start from improving students' comprehensive quality, focusing on cultivating students' will quality, humanistic accomplishment, sound personality and so on. The courses offered in the second part are mainly professional core courses and main courses. The school can focus on professional quality education and ideological and political education among students, cultivate students' political acumen and patriotic sentiment, and at the same time, improve students' professional ability. The third part is mainly about internship and social practice. The school can

combine typical cases of social practice and specific occupational environment to promote professional dedication among students, cultivate the spirit of craftsmanship, and enhance students' sense of responsibility to the country and society. In the learning process of different parts of ideological and political courses, mind maps can be used to organize and summarize the learning points of relevant parts, and clearly display them to students, which can not only save their learning time, but also increase their learning efficiency and develop students' learning comprehension ability [4]. At the same time, practice is the only criterion for testing the truth. College students should make full use of opportunities such as club activities, classroom speeches, and discussions to exercise themselves in practice, accumulate experience, improve their abilities, and organize and summarize what they have learned and thought in the process of practice. After the practice is over, students can make a review to clearly know what they have learned and understand their shortcomings at the same time, so as to exercise professional ability and facilitate growth.

3.3 Rely on Information Technology to Integrate Educational Resources

As young people who grew up in the Internet age, modern postgraduates in colleges and universities will contact a lot of information, but their values and ideas are not fully mature, so misleading is easy. In the face of the complicated world, postgraduate tutors can summarize current political topics in a certain stage or period, then explain the more important or more characteristic topics and dispel doubts, which can not only facilitate the teaching of professional knowledge, but also attract the attention of science and engineering postgraduates to current political topics, direct science and engineering postgraduates to think rationally, distinguish right from wrong, clarify political positions, and enhance political awareness. Open discussion helps postgraduates develop the cognition and habit of self-reflection, makes postgraduates open their horizons in the process of discussion, look at problems from different perspectives, and cultivate personal thinking ability through the collision of viewpoints [5]. At the same time, in the teaching process, teachers can improve postgraduates' cognition towards the essence of things by combining social hotspots or major news events, and at the same time, enhance the sensitivity, perception and thinking ability of postgraduates to traditional culture, which helps to enhance postgraduates' cultural self-confidence. Teachers can actively use advanced teaching methods and carry out teaching in combination with online teaching resources. They can use the information technology teaching platform to publish social hot topics on the platform for postgraduates to discuss. This enables teachers to understand postgraduates' thinking status and make reasonable adjustments to teaching content in a timely manner. At the same time, teachers can also express their own opinions in the topic, correctly guide postgraduates' thinking, and broaden their horizons. At the same time, hot topics can also be discussed between postgraduates and postgraduates, and between postgraduates and teachers, as the process of discussion will deepen the understanding of current affairs and politics, thereby strengthening the patriotism of postgraduates [6]. For example, college teachers can use current events and political hotspots as a carrier in course teaching, combine the content of ideological and political education, disseminate ideological and political information to postgraduates, focus on the concept of values education to better penetrate ideological and political education in college classroom teaching.

3.4 Perfect the Education Content and Improve the Education Quality

Teachers should improve their awareness of postgraduate ideological and political education, perfect the education content, and seamlessly connect ideological and political content with professional curriculum knowledge. Teachers should remember not to carry out ideological and political teaching activities in an overly formalized and task-based manner, which will be

counterproductive and even affect the teaching of professional courses. Teachers should efficiently construct professional ideological and political courses in colleges and universities through various forms of teaching exchanges, teaching and research activities, etc., explore the elements of ideological and political education in textbooks, and root them in students' values education [7]. In terms of the content of teaching materials, colleges and universities can combine the actual situation, first dig deep into the educational elements in the teaching materials, and at the same time, combine the educational elements in the teaching materials with the elements of ideological and political education, and timely update the teaching content of college courses. In terms of teaching methods and skills, ideological and political education elements can be integrated into teaching skills to achieve the purpose of enriching teaching methods, so as to shape students' correct values and moral norms through the guidance of ideological and political education elements in classroom teaching.

3.5 Complete the Management Mechanism and Establish an Evaluation System

Colleges and universities should focus on the three key elements of teaching materials, teachers and teaching, pay attention to the establishment of the "ideological and political" teaching system and the establishment of the supervision and evaluation system. Colleges and universities should develop school-based textbooks which can fully embody the concept of "ideological and political education", and use it as a carrier of ideological and political education among students. It is necessary to actively explore the best point to combine professional knowledge and "ideological and political education", clarify the keywords of relevant mechanisms and systems, enrich professional knowledge reserves to meet the diverse learning method needs of postgraduates. Colleges and universities should establish a supervision and evaluation system, record teachers' implementation of "ideological and political education", and make clear rewards and punishments. There is need to further strengthen the construction of teaching staff, and improve the level and capability of teaching and educating people through measures such as teacher training and teacher morality assessment, and provide a strong guarantee for the "curriculum reform" [8]. Not only that, the integration of ideological and political education elements into college classrooms requires not only the updating of teaching content, teaching models, and teaching skills, but also the introduction of a process evaluation mechanism, so that postgraduates make timely and effective self-inspection and assessment in the college classroom learning process, thus ensuring the effectiveness of integrating the concept of "ideological and political education" into college teaching. In this evaluation process, teachers can make appropriate adjustments to the teaching content based on postgraduates' feedback, so as to avoid the separation of teaching from evaluation, thus achieving the purpose of comprehensive education.

4. Conclusion

Under the background of emerging engineering education, this paper discusses the necessity and implementation path of improving the ideological and political education quality for science and engineering postgraduates. The improvement of ideological and political education quality for science and engineering postgraduates in colleges and universities certainly requires a very long process, and it is also a project with long-term significance for the majority of postgraduates and the country. The professional courses and ideological and political courses of postgraduates have the same status in educating people. Regardless of any major, postgraduate tutors should make full use of the important position of the classroom, pay attention to and implement the ideological and political education among postgraduates, so that postgraduates will continuously develop the excellent quality of being down-to-earth, meticulous, persevering, and seeking truth from facts

when pursuing scientific truth, thus better improving ideological and political literacy and comprehensive quality.

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References

- [1] Liu Minghui. *Exploration on the path to improve the teaching quality of postgraduate ideological and political courses in science and engineering colleges: from the perspective of Hubei University of Automotive Technology*. *Course Education Research*, 2021(7): 2.
- [2] Wu Jixuan. *Improve the quality of classroom teaching and strengthen the ideological and political education of students in science and engineering colleges*. *Economic Research Guide*, 2016, (11):73-73.
- [3] Zhao Zhengqiang, Li Mingang. *Promoting the path of ideological and political education for science and engineering college students with "full process education"*. *Journal of Mianyang Teachers' College*, 2018, 37(12):5.
- [4] Zhao Qianqian, Fan Chenhao. *Research on the development and effectiveness of postgraduate teaching assistants for large-scale and wide-ranging courses in science and engineering colleges in the western region: Taking Lanzhou University of Technology as an example*. *Educational Research*, 2020(15): 7.
- [5] Pan Fengqing, Bai Xingwang. *Strategies for improving the quality in enrollment of international students majoring in science and engineering in local colleges and universities*. *Contemporary Education Research and Teaching Practice*, 2020(14):11.
- [6] Wang Fuquan, Wang Haihong, Chen Yifei, et al. *Paths to improve the social responsibility sense of party members of science and engineering postgraduates*. *Journal of Liaoning University of Technology: Social Science Edition*, 2020, 22(5): 4.
- [7] Feng Cunfang, Zhou Xi. *A preliminary study on the path to improve the quality of college students' ideological and political education in science and technology colleges--Taking Wuhan Textile University as an example*. *Journal of the Northwest College of Adult Education*, 2019(3): 5.
- [8] Li Lin. *Research on the current situation and countermeasures of ideological and political education for students in independent colleges of science and technology universities*. Hunan Normal University, 2011.