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Research on the Cultivation of Innovative Talents in the Specialty of Inorganic Non-Metallic Materials Engineering under the Background of New Engineering

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ABSTRACT. *With the background of the new engineering discipline, China's inorganic non-metallic materials engineering has gradually become a hot industry, and the specialty is widely established in universities in various provinces and cities, which shows its popularity and professional status. Therefore, this article first briefly explains the concept of the specialty of inorganic non-metallic materials engineering and its related background environment, and explains what problems the specialty needs to be corrected in the cultivation of innovative talents. On this basis, in-depth research on the cultivation of innovative talents in the specialty of inorganic non-metallic materials engineering is hoped to give workers in related industries some reflection and inspiration, so as to export more high-quality innovative talents for our country.*

KEYWORDS: *Specialty of inorganic nonmetallic materials engineering; Innovative talents; Cultivation research*

1. Introduction

With the continuous improvement of China's international status, the country must develop and make breakthroughs in the industrial field in order to better protect China's economic development and social progress. Based on this new engineering background, the specialty of inorganic non-metallic materials engineering has become a strategic emerging engineering specialty in China. The education department has given a high degree of recognition and attention to this engineering specialty, which has further developed our universities. This major is undoubtedly an important development opportunity for the cultivation of innovative talents. Therefore, as educators of related majors, we must innovate the existing teaching mode of the engineering major, and take relevant measures to correct the problems and deficiencies in the original teaching process in a timely manner.

2. Basic Overview of the Specialty of Inorganic Non-Metallic Materials Engineering

As a first-level discipline in China, the specialty of inorganic non-metallic materials engineering mainly refers to the in-depth analysis and research of inorganic non-metallic materials and their composite materials, so as to provide more options for China's scientific, industrial, or other technical research fields New materials. In the specialty of inorganic non-metallic materials engineering, students not only need to learn the entire production process of the material, but also need to master the basic characteristics, process flow, organizational structure and performance of the material, so although it seems to be a Practical and applied disciplines, but still have extremely high requirements for related theoretical knowledge base.

As China's economic strength continues to increase, it will finally be able to gradually break away from imported materials in various advanced technologies, and finally be able to rely on Chinese manufacturing to produce composite materials and develop new products. In this engineering context, it is not difficult to find that the country and society have more requirements and expectations for the specialty of inorganic non-metallic materials engineering, and a great demand for the training of professional innovative talents. It is required that our students majoring in inorganic non-metallic materials engineering can not only master the known material production and processing processes, but also based on this, through in-depth study of the material structure and necessary process design, to achieve the transformation of the original material And the development of new materials [1].

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3. The Teaching Status of Inorganic Non-Metallic Materials Engineering Specialty

3.1 Unclear Teaching Goals

The goal of setting up the specialty of inorganic non-metallic materials engineering is unclear, which is the general status quo of teaching in many of our universities. Such ambiguous teaching is manifested in the first place, without prior knowledge of the school's comprehensive situation, to develop a teaching plan. Secondly, it is also manifested in not knowing the teaching needs of students, and blindly deploying the requirements issued by the education department in an all-round way, but ignoring the various problems existing in the learning of the teaching subjects, resulting in insignificant teaching quality.

3.2 The Curriculum is Not Perfect

Secondly, when the curriculum system for inorganic non-metallic materials was established, it was not formulated in accordance with the actual situation of students. Although professional knowledge should occupy an important position in the curriculum, it should not account for the entire proportion. Because as college students, they need more than just the improvement of professional knowledge. They also need to be guided correctly in ideological concepts and thinking modes. Therefore, a cultivating mechanism should be added to the curriculum rather than blindly focusing on professional knowledge. Stuffed into the student's head.

3.3 Single Education Channel

To cultivate innovative talents, teaching in the classroom is not enough. The actual learning situation of students varies greatly, and at the same time, they have their own strengths. Therefore, in addition to the one-to-many teaching mode, there should also be one-to-one or other innovative education channels, from the students' theoretical knowledge and practical cognition, etc Start with [2].

4. Research and Analysis on the Cultivation of Innovative Talents in the Specialty of Inorganic Nonmetallic Materials Engineering under the Background of New Engineering

4.1 Construction of Innovative Talent Training Program

For major universities, if they want to cultivate more innovative talents in the field of inorganic non-metallic materials engineering on the campus, they must first build a talent training program that fits the nature of the specialty and the situation of the students. Because only on the basis of clear talent training goals, our teaching will be more purposeful and targeted, and the teaching process and efficiency will naturally be optimized. When constructing innovative talent training programs, first of all, the managers of our school need to have a high understanding of the essential characteristics and professional characteristics of the profession, and at the same time, it needs to combine the new requirements for the professionals in the context of the new engineering discipline. Only in this way can we make teaching more practical. On this basis, we can formulate a more complete and highly feasible talent training program.

At the same time, the construction of innovative talent training programs can not be achieved behind closed doors, because the subject is very practical, so in order to make the training programs more practical, we should also extensively draw on the excellence that has been reviewed and approved by China's education sector. The standards of engineer education and training plan, and at the same time, for the outstanding professional field talents outside the school, you can also learn from them, and understand the latest progress of the practical application of inorganic non-metallic materials engineering in society. Through these methods, the construction of innovative talent training programs will be more complete and scientific, which is of great significance for ensuring the construction of talents [3].

Finally, in the innovative talent training program for the training of inorganic non-metallic materials engineering, a reasonable and effective curriculum system should be set up to further concrete the above steps. On the one hand, a reasonable curriculum plan needs to retain the reasonable and desirable aspects on the basis of the original; on the other hand, it is necessary to analyze the training system based on the latest requirements for talent training, whether it can meet the learning needs of students, and at the same time After meeting the needs of social development, the relationship between the three needs to be connected by a reasonable curriculum system. Therefore, in addition to the basic knowledge of inorganic non-metallic materials

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engineering, the curriculum should also introduce public basic and general education. This is not to increase students' academic burden, but to better Introduce humanized education into professional courses. Because any specialized knowledge must be controlled by correct values, this is the requirement of our quality education, and also the guarantee to promote the full and correct use of students' professional ability.

4.2 The Establishment of Multi-Channel Talent Training Channels

At the same time, in order to change the students' enthusiasm for learning caused by the original single teaching mode, and also to enable students to better learn from multiple dimensions, we should also create talent training channels through multiple channels [4]. In addition to classroom teaching, our universities and colleges should actively go out and strengthen communication with local enterprises and governments, so that teaching is not limited to campuses and textbooks, but can really allow students to take up front-line positions. They make full use of the theoretical knowledge they have learned, and better find their strengths and weaknesses in the engineering practice, so as to better check for defects.

In order to make better use of school resources, the specialty of inorganic non-metallic materials engineering should actively promote the mentor training system, not just the one-to-many teaching mode. Because in the daily classroom, teachers can only play a role in imparting knowledge, but because students have different understanding and mastery, they also need professional instructors to provide them with professional training. Therefore, from the perspective of cultivating innovative talents, a mentor who can guide the direction and give professional guidance is very important.

In addition, since inorganic non-metallic materials engineering is a discipline with strong practical application, it is particularly important to carry out various practical activities [5]. In addition to actively leading students to participate in innovation and entrepreneurship projects sponsored by governments at all levels, they can also host local innovation competitions or patent training activities on campus or in conjunction with other schools.

4.3 The Formation of Teachers

Teachers must play an important role in ensuring the construction of talents, so teachers' own professional abilities and professional qualities are very important. Teachers who train innovative talents should not only meet higher requirements in terms of academic qualifications and research backgrounds, but also strengthen retraining of teachers. The ultimate purpose of retraining is to enable teachers not only to master professional theoretical knowledge, but also to require them to strengthen their understanding of the new engineering environment through in-depth experimental projects, and to realize the new ideas for the profession in the new period. Requirements, in order to improve their ability and ideological awareness, at the same time, to better summarize the experience and impart it to students. In order to better create innovative talents [6].

5. Concluding Remarks

All in all, in the context of the new engineering discipline, if the majors of inorganic non-metallic materials engineering in our universities want to cultivate innovative talents, as educators, we must treat talents that meet the needs of economic development as our own. Responsibility and mission, by continuously enhancing their teaching ability and innovation awareness, and paying more attention to the reform and innovation of the teaching process, in the cultivation of talents, they will follow the people-oriented teaching concept, so as to continuously develop the potential of students and help them deepen their professional studies. Knowledge.

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