

Exploration on the Training Path of new Engineering Talents from the Perspective of Interdisciplinary

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Abstract: With the rapid development of society, science and technology has played a more important role in solving social and natural problems. The cross integration of knowledge is an effective choice for problem solving. Only by following the development of science and technology and discipline and adjusting the existing teaching content can we achieve sustainable development at present. Society has put forward new requirements for university education. Under the background of deepening the degree of interdisciplinary, new engineering education needs to effectively break the “clear-cut” talent training mode, effectively cultivate interdisciplinary engineering and technical talents, meet the national and social needs for compound talents, develop students’ ability and promote students’ sustainable growth.

Keywords: Interdisciplinary; New Engineering; Cultivation Path

1. Introduction

The high differentiation and integration of science and technology has become the development trend of today’s society. The knowledge society takes interdisciplinary as the main way of knowledge production. The interdisciplinary, integration and penetration of knowledge have gradually entered various disciplines. Interdisciplinary has become the best choice to solve important social and knowledge problems. Colleges and universities should not only cultivate professional talents. It is more necessary to cultivate innovative talents with interdisciplinary ability. China has entered a new era of industrial development. Colleges and universities undertake an important mission in talent training. Colleges and universities need to comply with the needs of the times, actively adjust the direction and focus of talent training, rely on interdisciplinary to realize the orderly training of new engineering talents, break through the existing disciplinary barriers and boundaries, and cultivate more innovative talents with interdisciplinary ability and background.

2. Concept transformation from traditional engineering to new engineering

Ideas guide action development. Colleges and universities need to pay attention to the social environment and scientific and technological development and play a supporting and leading role in the critical period of social development. The integration and participation of innovative ideas play a vital role in the intersection and integration of subject knowledge, to establish the sharing and coordination mechanism of talent training, we need to start from the perspective of interdisciplinary and new engineering construction, seek mechanism innovation while realizing concept innovation, promote the effective transformation from discipline orientation to industry orientation, change the current state of separation of various disciplines, and further strengthen the quality of cross-border integration of disciplines. The new engineering education guided by engineering demand will play a more and more important role in the future. The talent training of “new engineering” highlights the mission and responsibility of engineering education for national development and social development, completely breaks through the traditional thinking mode of engineering education,

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avoids excessive emphasis on discipline refinement, and makes an in-depth analysis facing the future industrial development and technical needs, so that students' lifelong growth can obtain the necessary educational support. It should not only let students master more subject knowledge, but also encourage students to choose their own growth direction and realize the diversified training of compound talents. It can be seen that the cultivation of new engineering talents should first uphold the concept of breaking discipline barriers and avoid the simplification of engineering education; Secondly, the training of new engineering talents should complete the Curriculum Optimization Design from the perspective of "problem orientation" to ensure that new engineering talents can better meet the needs of social development; Thirdly, the training of new engineering talents should focus on the all-round development of students and cultivate more high-quality compound talents.

3. Establish triple objectives for talent training of new engineering

The talent training of new engineering education is closely related to the interdisciplinary development. The primary goal of new engineering education is to cultivate interdisciplinary high skilled talents. Colleges and universities are trying to establish a new teaching organization, looking forward to breaking the original discipline limitations, ensuring that different discipline education and academic activities form a new connection. From the perspective of talent training, new homework education needs to be optimized and reconstructed around student development and education management, form a new talent training mode, and completely solve the problem of academic isolation. The third objective of new engineering education is to promote the coordinated development of educational resources. The serious shortage of high-quality educational resources shows the structural shortage of educational resources. The resources, data, information and technology of multiple disciplines can be effectively integrated to change the problems existing in the traditional training of engineering talents, so as to form a new collaborative application effect of educational resources.

4. Build an open and inclusive academic organization

The traditional academic organization structure has an adverse impact on the interdisciplinary integration, which also has an adverse impact on the effect and quality of talent training. The upgrading and reconstruction of teaching organization structure can effectively play the positive role of teaching organization and speed up the development of new engineering education. There are significant differences between academic organizations and traditional administrative organizations. Academic organizations rely on the logic of knowledge development to complete the construction. There are many disciplines in universities. Interdisciplinary talent training puts forward new requirements for the training of new academic organizations. With the advent of knowledge society, modern universities have become a new academic organization. Universities not only need to rely on their own development, but also need to realize in-depth cooperation across school boundaries.

5. Conclusion

University engineering talents should actively pay attention to the integration of science and disciplines, look for the development opportunities of engineering education at the moment of continuous deepening of interdisciplinary intersection, actively promote the symbiosis and complementarity of interdisciplinary education and professional education, meet the needs of students' personality development, provide students with diversified educational choices, and effectively realize the training objectives of new engineering talents.

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