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INNOVATION ELEVATION: CRAFTING STRATEGIC MODELS FOR CULTIVATING ELITE TALENT IN HIGHER EDUCATION

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Abstract: As higher education reform continues to evolve, universities have made significant strides in fostering innovative talents. Nonetheless, entrenched traditional educational paradigms and teaching methods have presented ongoing challenges, impeding the cultivation of top-tier innovative talent. This has resulted in sluggish progress in meeting the rising demand for such talent within China's burgeoning international standing and rapidly developing social economy.

In response, universities must delineate a strategic vision for nurturing top-tier innovative talent. This entails the development and application of scientifically advanced educational and teaching models. Continuous exploration and implementation of effective optimization strategies are necessary to elevate the quality and caliber of top-tier innovative talent cultivation. These endeavors align with the overarching educational mission of universities: "cultivating virtue and cultivating talents."

Keywords: Innovative talent cultivation, Higher education reform, Educational models, Innovation in teaching, Talent development strategies

Introduction

With the gradual deepening of higher education reform, various universities have achieved certain results in cultivating innovative talents. However, due to the legacy of traditional educational concepts and teaching models, universities still face many difficulties and problems in cultivating top-notch innovative talents, resulting in a slow progress in the cultivation of top-notch innovative talents in China, making it difficult to meet the internal demand for talents in the rapidly rising international status and rapidly developing social economy. Based on this, various universities need to clarify the strategic position of cultivating top-notch innovative talents, formulate and apply scientific and advanced education and teaching models, continuously explore and practice effective optimization paths, and promote the quality and level of cultivating top-notch innovative talents, comprehensively implementing their own educational goals of "cultivating virtue and cultivating talents".

1. The main characteristics of top innovative talents

2.1 A sound knowledge reserve system

As elites with exceptional innovation capabilities, top innovative talents first need to possess profound and extensive basic theoretical and professional knowledge, in order to implement high-level innovation research through the combination of theory and practice [1]. In the growth of top-notch innovative talents, it is necessary to comprehensively grasp the basic knowledge of various disciplines and integrate knowledge between disciplines to form an organic whole. At the same time, it is also necessary to strengthen the depth of research on professional knowledge, have unique insights and forward-looking research on professional knowledge, and lay a solid foundation for subsequent innovative research. In addition, top-notch innovative talents also need to possess strong practical knowledge, namely the experience and methods accumulated in practice, and sufficient humanistic knowledge to help them develop excellent qualities of self-reliance, courage to take risks, and fearlessness in innovation research.

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2.2 Outstanding comprehensive innovation capabilities

Top innovative talents shoulder the important task of promoting the transformation and development of their field, and therefore need to possess strong comprehensive innovation capabilities. From the perspective of the constituent elements of innovation ability, comprehensive innovation ability includes the following aspects: firstly, reverse thinking ability. In practical learning and research, it is not limited to inherent thinking patterns and problem-solving methods, but rather carries out research in a combination of advancing and retreating in the reverse direction and the reverse trend; The second is the ability to bring forth new ideas, dare to break the shackles of traditional ideas and inherent models, adhere to the dialectical view of Unity of opposites, dare to challenge the authority, and always go on the road of transcending oneself and inherent; The third is the ability to draw inferences from one example, possessing the ability to bypass analogies and proficiently apply analogical thinking in learning and research. By studying typical things, one can apply patterns, methods, and experiences to the study of other things and problem-solving.

2.3 Strong system thinking ability

Top innovative talents need to face extreme and complex external environments, and therefore need to possess strong systematic thinking abilities in order to apply their knowledge to solve various difficulties and problems [2]. Firstly, top-notch innovative talents need to possess a holistic perspective in the process of thinking, and can start from the overall perspective, focusing on the overall trend and direction, to analyze and solve problems. Secondly, the thinking of top innovative talents is always in a dynamic state, and dynamic thinking can be carried out based on changes in the development of things. By combining changes in external environmental factors, forward-looking predictions and responses can be made to their future forms. In addition, top-notch innovative talents need to have the ability to see the essence through phenomena. With keen insight, they can discover factors that are difficult for ordinary people to detect, and then rationally and objectively solve various problems effectively.

2.4 Correct ideological values

Top innovative talents shoulder the important task of innovation research, and they will master a large number of scarce resources in specific research, so they need to have correct and healthy ideological values [3]. In the new era of diversified development of ideology, culture, and values, top-notch innovative talents need to consciously resist the invasion of bad ideas and incorrect information, face the complex information environment, establish the correct "three values" and noble life ideals, and closely link the realization of their own values with the development of the country and the prosperity of the nation. At the same time, top-notch innovative talents will encounter various unexpected difficulties in their specific work and research, which requires them to possess excellent qualities such as self-reliance, tenacity, and perseverance. At the same time, they also need to possess good emotional intelligence and perfect personality cultivation, so that they can calmly respond to various challenges and properly complete various tasks of innovation research.

3. The Mainstream Model Construction of Cultivating Top Innovative Talents in Universities

3.1 Compound cultivation mode

The implementation of the composite top-notch innovative talent cultivation model aims to meet the demand of society for innovative talents, while taking the self needs of talents as the core guidance, selecting talents with both theoretical and practical abilities into the cultivation system based on the specific goal of cultivating top-notch innovative talents, and conducting comprehensive, multi-dimensional, and refined cultivation of them. Under the compound training model, the school scientifically allocates and optimizes existing educational resources and teaching staff, formulates and implements scientific management mechanisms around the goal of cultivating top-notch innovative talents, and implements talent cultivation through "diversion training" and "small class teaching", so that the selected talents have a solid theoretical foundation, extensive knowledge, outstanding

comprehensive abilities, and perfect personality qualities. This lays a solid foundation for the cultivation of composite talents[4]. After initially possessing innovative abilities, students can make two-way choices with teachers based on their own development needs and interest directions, and then enter the "specialized, refined, and top-notch" cultivation process. Under the guidance of professional mentors, students can participate in innovative academic research and entrepreneurship projects, gradually becoming truly top-notch innovative talents.

3.2 Industry University Research Cooperation Training Model

From the perspective of educational and teaching resources, universities have rich educational resources, high-end scientific research platforms, and practical training bases[5]. By connecting scientific research projects and research topics, strengthening the collaborative linkage between universities and enterprises can create a relatively broad space for the cultivation of top-notch innovative talents. With sufficient research funds and teaching staff, universities can provide comprehensive theoretical and quality education to top students, enabling them to proficiently master advanced professional theories and cutting-edge scientific and technological knowledge. Under the guidance of professional mentors, universities can participate in research projects and provide opportunities and support for top students to create new scientific and technological achievements. On this basis, universities should cooperate with well-known enterprises in the industry to jointly develop scientific talent training plans, so that top students can deeply participate in the production and operation of enterprises, receive professional practical training from enterprises in practical operations, and apply their knowledge and skills to practice. In the process of analyzing and solving problems, top students should continuously strengthen their innovative initiative, And then become truly top-notch innovative talents.

3.3 Inter school Joint Training Mode

The intercollegiate alliance model refers to the cooperation between different universities in teaching, scientific research, and other aspects, achieving the sharing of information, resources, and other aspects, and promoting the comprehensive cultivation of talents through complementary advantages[6]. In terms of cultivating top-notch innovative talents, the implementation of the intercollegiate joint training model mainly involves teaching communities, collaborative teaching, joint research, and other methods. These methods can enable top-notch students from different schools to interact with each other to generate thinking collisions, strengthen students' divergent thinking, and lay a solid foundation for the cultivation of their comprehensive innovation ability. In specific operations, top students study in other universities as exchange students and choose courses based on their own needs. With the assistance of information and educational resources from other universities, top students can actively participate in academic research and research activities of other universities, strengthening their professional theoretical level from a theoretical perspective. At the same time, top students can participate in various practical activities of other universities according to their own needs, receive guidance from their professional mentors in practice, use the practical resources of the university to test their knowledge reserve system, and continuously improve their innovation ability.

4. Optimization Path for Cultivating Top Innovative Talents in Universities

4.1 Improving the talent selection mechanism

The initial stage of cultivating top-notch innovative talents lies in the selection of talents. Firstly, universities need to abandon the outdated mechanism of using college entrance examination scores as the only selection criteria, establish new educational concepts, take students' knowledge reserves, ability structure, and ideological literacy as comprehensive assessment criteria, and take students' achievement of science and technology awards in high school as an important selection factor to ensure that the selected students have excellent academic performance, I also possess other abilities and qualities to conduct innovative research. Secondly, colleges and universities can make full use of the recruitment mechanism of enterprises and institutions to select talents by combining written

examination with interview, examine students' logical ability, thinking ability and analytical ability by means of written examination, consider students' adaptability, writing ability, team consciousness and other qualities by means of interview, and implement key assessment for students with special abilities and outstanding strengths, At the same time, treat the recruitment of "strange talents" and "ghost talents" from a dialectical perspective. In addition, universities can implement a hierarchical selection mechanism based on colleges and disciplines, selecting outstanding students from an overall perspective in the initial stage to form a top-notch innovative talent training team. During the training process, exit mechanisms can be implemented. For those who are not suitable for further training, they can be transferred to regular student training under the premise of following their wishes. In subsequent training, for students who perform well and have outstanding abilities, by forming a "high, refined, and top-notch" talent group and focusing on cultivating them, on the one hand, it can improve the quality of cultivating top-notch innovative talents, and on the other hand, it can set an example for other selected students, leading the entire top-notch innovative talent training team to continuously advance.

4.2 Reforming the Curriculum System for Talent Cultivation

The traditional curriculum system is no longer able to meet the inherent needs of social development and educational reform, and it is difficult to meet the cultivation goals of top-notch innovative talents. In this regard, universities need to comprehensively reform the talent training system for cultivating top-notch innovative talents. In this regard, colleges and universities need to develop a separate curriculum system around the cultivation of top-notch innovative talents, with students' interest direction and knowledge needs as the core guidance. On the one hand, they need to strengthen the "breadth" of the curriculum system, integrate World history, sociology, literature, aesthetics, quantitative reasoning, natural science, logic, philosophy and other disciplines, so that students can have a macro and subtle grasp of human organization and social operation. Furthermore, it clarifies the production process of cutting-edge theories and high-end technologies, achieving analogy and integration, and encouraging students to shape creative thinking patterns and strengthen their innovation awareness based on corresponding academic practice activities. On the other hand, on the basis of "breadth", universities need to provide top-notch students with "deep" educational and teaching resources, highly recognize the subjectivity of top-notch students, guide them to conduct in-depth academic research and technological innovation based on their interests and development needs. In this regard, colleges and universities should actively organize high-end academic exchanges and scientific research projects, encourage top students to participate in them, implement the tutorial system, equip top students with professional mentors, enable top students to constantly deepen their knowledge reserve system under the professional guidance of their mentors, rely on academic exchanges and scientific research projects, and fully master advanced, high-end and cutting-edge scientific research technology, so as to achieve a leap in the quality of top innovative talent training.

4.3 Building an International Chemical Exchange Platform

With the advent of the era of informatization and globalization, the cultivation of top-notch innovative talents in universities needs to establish an international perspective, align talent cultivation with international standards, continuously absorb and learn from successful experiences and advanced methods of international innovative talent cultivation, and also create more opportunities for top-notch students to access world-class educational and academic resources, so that they can continuously improve their innovative abilities in international academic exchanges. In this regard, universities need to actively build international chemical exchange platforms, fully leverage the information and technological advantages of new media to break through the constraints of time and space, provide top students with more opportunities to access international cutting-edge information and advanced theories, and rely on international chemical exchange platforms to carry out high-level academic reports, world-class scientist visits, and other activities, on the one hand, broaden the horizons of top students, injecting strong internal driving force into the improvement of their innovation ability, on the other hand, it enables top students

to receive effective inspiration and guidance in national chemistry activities, promoting their knowledge system and ability structure to a new level, and achieving a qualitative leap. In addition, universities need to establish a cooperation mechanism with world-class universities through the cultivation of top-notch innovative talents. Through exchange students, summit exchanges, and other forms, top-notch students are transported to world-class universities for innovation practice training, and top-notch innovative talents from different countries are invited to study and participate in guidance, in order to create a strong academic atmosphere and innovation environment, and comprehensively stimulate the academic interest and research initiative of top-notch students, Provide a solid guarantee for them to become truly top-notch innovative talents.

4.4 Innovative Talent Evaluation Mechanism

In order to cultivate top-notch innovative talents, universities need to comprehensively innovate talent evaluation mechanisms, abandon traditional and fixed education and teaching evaluation models, and develop and implement process oriented, diversified, and bidirectional talent evaluation methods. Firstly, universities need to abandon the outdated approach of using academic performance and research results as the sole evaluation criteria, and evaluate the cultivation of top students as a dynamic process. A comprehensive quantitative and qualitative dual model is adopted to assess the cultivation process and self-shaping process of top students, and to view the improvement of innovation ability and research and development of innovative achievements of top students from a dynamic development perspective, to strengthen the fairness and objectivity of the talent evaluation mechanism. Secondly, for the evaluation direction of top students, universities need to follow the principle of diversification, abandon traditional talent evaluation concepts, standards, and mechanisms, and use knowledge reserve system, comprehensive innovation ability, systematic thinking ability, ideological values, etc. as the evaluation criteria for top students. The comprehensive quality of top students should be evaluated from multiple perspectives and comprehensively to ensure the comprehensive development of their various qualities and abilities. In addition, cultivating top-notch innovative talents requires emphasizing respect and emphasis on the development needs and interest directions of top-notch students. A talent evaluation mechanism should be implemented in a bidirectional manner. While mentors evaluate students, top-notch students should be guided and encouraged to evaluate factors such as talent cultivation models, curriculum systems, practical forms, and mentoring effectiveness. On the one hand, it is conducive to optimizing and improving the training system for top-notch innovative talents, On the other hand, it can accurately grasp the strengths and weaknesses of top students, and then carry out differentiated teaching and personalized guidance, ensuring that the comprehensive innovation ability of top students can be quickly and comprehensively improved.

4.5 Rich opportunities for innovative practice

For the cultivation of top-notch innovative talents, innovation ability arises from practical activities, and the correctness and practicality of theory need to be tested in practice. Therefore, universities need to provide more opportunities for top-notch students to participate in innovative practice activities, so that they can continuously improve their knowledge reserve system in practice and strengthen the shaping of their comprehensive innovation ability, at the same time, cultivate excellent qualities of self-reliance, fearlessness of difficulties, and tenacious struggle in practice. In this regard, universities need to encourage and guide top students to participate in international and domestic innovation and entrepreneurship competitions, arrange professional mentors to provide guidance, so that top students can exercise and develop their comprehensive innovation ability through competitions, and strengthen their team collaboration ability during the competition process. At the same time, through interaction and communication with other participants, their knowledge reserve system and ability structure can be improved. Secondly, universities need to arrange for top students to participate in production management in enterprises above the designated size, so that they can continuously learn cutting-edge operating technologies under the guidance of enterprise operators and technical experts, and rely on their acquired

knowledge and skills to creatively solve technical problems encountered in enterprise production and operation. This will enable top students to accumulate rich practical experience and continuously strengthen their comprehensive innovation ability. In addition, colleges and universities should provide a "985" scientific research platform, rely on the double Mentorship, enable top students to participate in the cooperation and exchange activities of international scientific research institutions, and organize top students to enter internationally renowned scientific research institutions for further study, so as to comprehensively improve the quality and level of top innovative talent training.

5. Conclusion

With the popularity of "mass innovation and entrepreneurship", the cultivation of top-notch innovative talents has become a focus of high attention in various fields of society. The achievements and achievements in the cultivation of top-notch innovative talents have become an important standard for measuring the level of education in universities. In this regard, various universities need to attach great importance to the cultivation of top-notch innovative talents, clarify their specific goals for talent cultivation, rely on the mainstream mode of top-notch innovative talent cultivation, formulate and implement effective optimization measures for talent selection, curriculum system, academic exchange, talent evaluation, innovation practice, and other aspects, in order to provide a solid foundation for the cultivation of top-notch innovative talents, assist in the comprehensive improvement of the quality and level of cultivating top-notch innovative talents.

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