

Research on the Paths of College Counselors' Empowerment in Medical Innovation and Entrepreneurship Education Under the Guidance of High-Quality Development

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Abstract: Against the backdrop of the high-quality development philosophy and the Healthy China strategy, medical innovation and entrepreneurship education still face issues such as unbalanced training concepts, prominent disciplinary barriers, insufficient resource support, and inadequate exertion of counselors' roles. Adopting a problem-oriented approach, this paper focuses on the empowering value of counselors in medical innovation and entrepreneurship education, and systematically explores their role reconstruction, competency adaptation, and implementation paths. The study points out that counselors should transform from traditional administrative managers to "innovation education hubs", establish a corresponding competency system around three core roles, and propose a four-dimensional practical pathway consisting of "cognitive enlightenment, competency training, resource coordination, and project incubation". This research provides actionable references for universities to optimize the medical innovation and entrepreneurship education system with counselors as the fulcrum, enhance the effectiveness of empowerment, and help cultivate high-level interdisciplinary medical innovative talents that meet the needs of high-quality development.

Keywords: High-quality development; College counselors; Medical innovation and entrepreneurship education; Empowerment paths

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1. Introduction

The Report to the 20th National Congress of the Communist Party of China clearly proposes to "strengthen the development of basic disciplines, emerging disciplines, and interdisciplinary fields, and accelerate the construction of world-class universities and advantageous disciplines with Chinese characteristics", pointing out the direction for the high-quality development of medical education in the new era^[1]. With the deepening of medical system reform and the evolution of diversified employment forms in the industry, the single clinical-

oriented training model is difficult to meet students' diverse career development needs. Cultivating a strong innovative spirit and entrepreneurial ability has become the core literacy for medical students to adapt to the high-quality development of the industry and the trend of technological integration^[2]. Against this background, guided by the concept of high-quality development, optimizing the paths of medical innovation and entrepreneurship education, and cultivating medical students' innovative practical abilities are not only important measures to enhance their employment competitiveness but also an inevitable choice to respond to the demand for high-quality medical talents under the Healthy China strategy.

As the front-line hub of the university's education system, college counselors have clearly included innovation and entrepreneurship guidance in their nine core responsibilities, providing solid support for their empowerment in medical innovation and entrepreneurship education^[3]. Counselors can deeply grasp students' innovation and entrepreneurship needs to provide a basis for personalized support; integrate various internal and external resources to build a resource network for education implementation; and accompany students throughout the innovation and entrepreneurship practice to make up for the shortcomings of the traditional education model, providing continuous support for the implementation of education paths. They play an irreplaceable role in empowering medical innovation and entrepreneurship education^[4].

Based on this, this study takes the high-quality development philosophy and the Healthy China strategy as the macro background, takes the practical dilemmas of medical innovation and entrepreneurship education as the entry point, focuses on the empowering value and role reconstruction of counselors in innovation and entrepreneurship education, and follows the idea of "problem orientation - role positioning - path construction" to provide theoretical references and practical guidance for universities to establish and improve the mechanism of counselors' empowerment in medical innovation and entrepreneurship education.

2. Practical dilemmas of innovation and entrepreneurship education in medical colleges and counselors' role shortcomings

Currently, innovation and entrepreneurship education in medical colleges face the dilemma of an imbalance between traditional medical education and the demand for modern innovative medical talents. At the same time, counselors' role shortcomings jointly restrict the effectiveness of innovation and entrepreneurship education in medical colleges.

2.1. Structural imbalance in training concepts and teaching models

On the one hand, the traditional concepts of "valuing majors over interdisciplinary integration" and "valuing clinical practice over innovation" are still deeply rooted. The curriculum system of medical students' theoretical learning and clinical practice accounts for a large proportion^[5], leading to the marginalization of innovation and entrepreneurship education in medical colleges, which is not included in the core training scope, restricting the basic construction of empowerment paths. On the other hand, the curriculum design is still dominated by one-way knowledge transmission, lacking special training in critical thinking and innovative thinking, resulting in insufficient student participation initiative; the relatively isolated model of basic medical and clinical teaching also hinders medical students' ability to transform theoretical knowledge into solving practical clinical problems, forming an imbalance between knowledge transmission and thinking cultivation, which is not conducive to the effective implementation of empowerment paths^[6].

2.2. Barriers in disciplinary boundaries and practical collaboration

With the deepening cross-integration of medicine with artificial intelligence, bioengineering and other fields, the industry's requirements for medical students' interdisciplinary collaboration capabilities continue to increase. However, the disciplinary barriers under the traditional training model and the lack of interdisciplinary collaboration models in universities restrict the in-depth advancement of interdisciplinary construction. At the same time, issues such as conflicts between internship and training time, and the disconnection between clinical practice and innovative exploration make it difficult for students' innovative ideas to be implemented, weakening the effect of innovative education ^[7].

2.3. Obvious shortcomings in institutional mechanisms and resource support

Universities lack mature management and operation mechanisms and systematic planning in cultivating medical students' innovation and entrepreneurship capabilities, making it difficult to provide institutional guarantees for counselors' innovation and entrepreneurship education work ^[8]. When students consult about practical innovation and entrepreneurship issues, they often fail to receive systematic training and effective guidance. Most counselors lack practical experience. In addition, the disciplinary structure of medical colleges is relatively single, and external resources are limited, making it difficult to support the full-process advancement and new breakthroughs of innovation and entrepreneurship education.

2.4. Counselors' role competency shortcomings

As the main implementers of innovation and entrepreneurship education, counselors' work capabilities have become a key bottleneck restricting the effectiveness of innovation and entrepreneurship education. Some counselors fail to recognize the demand for innovative medical talents brought by the high-quality development of medicine, and their ability to interpret and implement innovation and entrepreneurship education policies is insufficient; they lack systematic innovation and entrepreneurship education training and guidance experience, making it difficult to provide full-chain guidance; at the same time, the linkage mechanism with other departments is insufficient, making it difficult to form a joint education force, leading to low efficiency in promoting innovation and entrepreneurship education paths.

The superposition of the above dilemmas prevents counselors from giving full play to their hub role in innovation and entrepreneurship education. Therefore, promoting the reconstruction of counselors' roles has become an important breakthrough to solve the innovation and entrepreneurship education paths in medical colleges and help the high-quality development of medical education.

3. Counselors' role reconstruction and competency adaptation

Guided by high-quality development, counselors need to break through the traditional positioning of "administrative managers" ^[9] and transform into "innovation education hubs", building a collaborative system of "role - competency - collaboration", thereby realizing the in-depth matching of role positioning and competency reserves, and effectively improving the effectiveness of empowering innovation and entrepreneurship education paths in medical colleges.

3.1. Policy interpreter

Counselors must have the ability to interpret policies and conduct real-time transmission: they must not

only systematically grasp relevant policies such as new medical science construction, innovation and entrepreneurship support, and scientific and technological achievement transformation but also be good at transforming policy dividends into guidance content that is easy for medical students to understand, providing targeted policy consultation, helping students accurately use policy resources, and providing policy support for the implementation of innovation and entrepreneurship education^[10]. At the same time, combined with the professional characteristics of medical students, organize various innovation and entrepreneurship activities to integrate innovative concepts into daily education, stimulate students' internal motivation, and create a good cultural environment for innovation and entrepreneurship education.

3.2. Resource integrator

Counselors need to have cross-disciplinary knowledge reserves and collaborative communication capabilities: take the initiative to learn basic knowledge of interdisciplinary fields and grasp the trend of industry innovation and integration. Be good at building a collaborative education bridge of “counselors - professional teachers - external mentors”, and strengthen the linkage between counselors and professional teachers to achieve curriculum collaborative education^[11]. Actively link internal functional departments of the university to strive for the necessary resources for students' innovation and entrepreneurship activities. Expand high-quality external resources to make up for the shortage of a single resource structure in medical colleges, break disciplinary barriers, and promote multi-field resource integration^[12].

3.3. Project instructor

Counselors need to master full-process project guidance and competition coordination capabilities: be familiar with the entire process of innovative projects from conception to implementation, understand the characteristics and preparation essentials of various innovation and entrepreneurship competitions, and provide practical project guidance for students; at the same time, be able to properly handle various conflicts in the process of project advancement.

4. Practical paths of counselors' empowerment in medical innovation and entrepreneurship education

4.1. Cognitive enlightenment: Hierarchical and classified precise guidance

Cognitive enlightenment is the basic link of counselors' empowerment in medical innovation and entrepreneurship education paths. Counselors should fully use daily work scenarios such as theme class meetings, heart-to-heart talks, and dormitory visits to transform the cultivation of innovation and entrepreneurship awareness from specialized “activities” to daily “dialogues”. For example, when talking about career planning, guide students to pay attention to unmet clinical needs; when analyzing social hot topics, inspire students to think about the intersection of medicine and cutting-edge technology. This subtle guidance can make innovative thinking germinate naturally in students' consciousness, realizing the transformation from passive consultation to active enlightenment. At the same time, establish personalized innovation and entrepreneurship files for students based on their grade characteristics, ability advantages, and actual needs, implement precise and embedded guidance, and gradually stimulate students' innovative awareness. For lower-grade students, the main goal is to “enlighten interest and broaden horizons”, eliminating students' fear of difficulties and stimulating their innovative interest through low-threshold and interactive activities; integrate innovation and entrepreneurship

concepts into enrollment education and professional introduction courses to help students initially establish innovative awareness. For upper-grade students, the main goal is to “project docking and ability implementation”, carry out special guidance on project proposal writing and patent application, and conduct personalized training combined with students’ strengths. In addition, promote innovation and entrepreneurship policies through multiple channels, flexibly use class QQ groups, WeChat official accounts, and offline consultation meetings to push basic innovation and entrepreneurship concepts and on-campus resources, interpret practical policies such as competition application, incubation support, and interdisciplinary research support, ensuring that policy promotion reaches accurately and is effectively implemented.

4.2. Competency training: Interdisciplinary integration and practical training

The cultivation of innovation and entrepreneurship capabilities is the core link of counselors’ empowerment in medical innovation and entrepreneurship education paths. It should take a competition-driven approach as the starting point and practical training as the support, build a three-dimensional training model of “theory + practical training + competition”, comprehensively improve students’ innovative practical capabilities, and achieve the education goal of promoting learning through competition and practicing through competition^[13]. In terms of competition guidance, provide full-process guidance services for innovation and entrepreneurship competitions: before the competition, set up a competition preparation team, deeply understand students’ projects, assist students in selecting suitable competitions, and accurately recommend high-quality competition resources such as “Internet +” and “Challenge Cup”; discover potential projects and teams early, invite professional teachers and external mentors to conduct topic demonstration, polish the innovation and feasibility of projects, and provide supporting special training on business plan writing, financial analysis, roadshow defense, etc^[14].

During the competition, follow up on the project progress throughout the process, coordinate issues such as experimental resource docking and team collaboration, and provide psychological counseling to relieve the pressure of preparing for the competition. After the competition, focus on achievement transformation and education summary, guide students to consolidate theoretical knowledge, understand industry frontiers, improve professional capabilities, team collaboration awareness, and defense skills through scientific research experiments, field investigations, data sorting, and report writing, laying a foundation for subsequent scientific research and job hunting; provide innovation and entrepreneurship psychological counseling and stress adjustment to help students cope with anxiety and setbacks in the innovation process. In terms of practical training enhancement, use big data to analyze students’ interests and potential, intelligently match competitions and projects to improve training accuracy; guide students to master practical skills in real scenarios through on-campus skill workshops and off-campus social practice, exercise innovative thinking and problem-solving capabilities, and lay a solid practical foundation for empowerment paths.

4.3. Resource coordination: Integrated internal and external support network

Resource coordination is the key support for counselors’ empowerment in medical innovation and entrepreneurship education paths. An integrated resource support link of “internal university linkage + external expansion” should be built, clarifying the responsibilities of all parties, integrating high-quality resources, and providing comprehensive guarantees for project implementation^[15].

At the internal university linkage level, the focus is to build a collaborative body of “counselors - various functional departments”: counselors are responsible for overall organization and resource docking, professional teachers provide professional technical support, and link relevant functional departments of the university to

establish a regular resource guarantee mechanism, providing solid support for the internal implementation of innovation and entrepreneurship education. At the external expansion level, efforts are made to build two types of core resource carriers: one is to promote order-based training, industry-university-research cooperation projects, and internal and external double tutor systems to make up for the lack of on-campus practical guidance; the other is stable school-enterprise (medical) cooperation practical training bases to solve the problem of disconnection between clinical learning and innovative practice^[16].

4.4. Project incubation: Full-cycle support from idea to implementation

Project incubation is the ultimate goal of counselors' empowerment in medical innovation and entrepreneurship education paths. Based on competition results, it should provide full-cycle and full-chain support for students' innovative projects from idea germination to implementation and operation, effectively improving the success rate of project incubation. In the idea cultivation stage, encourage students to form interdisciplinary teams around clinical pain points to form professional and feasible project concepts; at the same time, implement differentiated guidance combined with students' individual characteristics to lay a good foundation for the incubation link. In the plan improvement stage, coordinate internal and external mentors to provide technical guidance and plan optimization suggestions, assist in completing preliminary work such as scientific research project application and patent novelty search, and continuously polish project details according to competition feedback to optimize the core content of the incubation link. In the implementation and transformation stage, connect with internal and external incubation bases to provide venue, equipment, and consulting support, assist in linking investment resources and going through relevant procedures to reduce the threshold for entrepreneurship; at the same time, cooperate with school-enterprise cooperation bases to provide clinical transformation and market promotion support for projects, promote the transformation of innovative achievements, and achieve the implementation goal of innovation and entrepreneurship projects. In the growth tracking stage, continuously pay attention to the operation progress of projects, timely assist in solving problems in development, continuously empower projects with the help of competition resources and practical platforms, provide regular support and guidance, and improve the full-cycle closed loop of counselors' empowerment in medical innovation and entrepreneurship education.

5. Conclusion and outlook

Based on the background of the high-quality development philosophy and the Healthy China strategy, this paper focuses on the empowering value of counselors, and systematically explores the practical dilemmas of medical innovation and entrepreneurship education, the internal logic of counselors' role reconstruction, and their practical paths of empowering medical innovation and entrepreneurship education. The research shows that counselors' transformation into "innovation education hubs", building a "role - competency" collaborative system, and effective empowerment through the four-dimensional practical path can effectively solve the key bottlenecks in medical innovation and entrepreneurship education, providing strong support for universities to improve relevant education paths. This study not only enriches the theoretical system of medical innovation and entrepreneurship education in the background of high-quality development but also provides actionable, practical references. In the future, the path design can be further optimized through empirical research, and the research perspective can be broadened in combination with the development needs of digital technology and emerging fields, continuously improving the adaptability and effectiveness of empowerment paths, and contributing to the

cultivation of high-level interdisciplinary medical innovative talents that meet the requirements of high-quality development.

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