The Exploration of Integrating "Service-Learning" into the Teaching Reform of Infectious Diseases of Clinical Medicine Specialty in Higher Vocational Colleges

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Abstract: With the continuous changes of globalization and social development needs, the traditional education model has gradually exposed many deficiencies, especially in the highly practical disciplines such as medicine and sociology, and the simple theoretical teaching has been difficult to meet the needs of diversified development of students. Under this background, the "service-learning" model emerges as The Times require, and becomes an innovative way of education. By combining theoretical learning with practical service, the model enables students to put what they have learned into practice in social service activities, thus improving their comprehensive quality and social responsibility. Different from the traditional teaching mode, service-learning emphasizes that in real social situations, students cultivate their practical ability and critical thinking by participating in practical work such as community service and public health, and deepen their understanding and mastery of professional knowledge in the process. In the "service-learning" model, students are not only the receivers of knowledge, but also the providers of services. By interacting with the clients they serve, they can not only demonstrate their professional skills, but also gain valuable social experience and further understand humanistic care and social responsibility. More importantly, this model breaks the boundaries between disciplines and enhances students' problem-solving ability and teamwork spirit through interdisciplinary cooperation. "Service-learning" model not only has a profound impact on students' personal development, but also provides a new perspective and path for the reform and innovation of the education system. Although this model shows great potential in the teaching of higher vocational colleges, it still faces the problems of insufficient teaching resources, restriction of teachers' professional ability and low participation enthusiasm of students in the actual implementation process. Therefore, how to optimize the "service-learning" model to better serve the growth of students and social needs has become an important issue to be solved in the current education field..

Keywords: Service-Learning; Epidemiology; Higher Vocational Colleges; Clinical Medicine; Sense of Social Responsibility

1. Introduction

With the increasing attention of the society to public health security, the importance of prevention and control of infectious diseases has become increasingly prominent. Especially in the medical majors of higher vocational colleges, the teaching of infectious diseases is not only related to the students' professional quality, but also closely related to social public health. However, traditional teaching methods have been unable to meet the rapidly changing social needs and the challenges of professional development. Therefore, how to effectively innovate the teaching mode and enhance students' practical ability and social responsibility has become an urgent problem in the field of education. Service-learning model, as an innovative educational method combining academic learning with social practice, has been widely used worldwide in recent years. By combining students' theoretical learning with social service, this model encourages students to deepen their understanding and application of knowledge in practice, and then cultivates professionals with social responsibility and practical ability. This paper will discuss the specific practice of

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introducing the "service-learning" model into the teaching of infectious diseases in higher vocational colleges, and analyze the challenges and optimization countermeasures.

2. The Characteristics of the "Service-Learning" Model

2.1 Introduction of New Materials

In today's education field, with the ever-changing social demands in the context of globalization, the traditional education model is facing increasingly significant challenges, especially in the highly practical disciplines such as medicine and sociology, where simple theoretical teaching is often difficult to meet the training needs of students' comprehensive quality and social responsibility[1]. Under this background, "service-learning" model, as an innovative educational model, came into being and has been widely concerned by the academic and educational circles. Different from the one-way knowledge transfer in traditional education mode, "service-learning" mode emphasizes the seamless connection between theoretical learning and practical service, trying to combine academic learning with social practice, so that students can truly realize the transformation and application of knowledge in the process of participating in social service activities. Specifically, students acquire professional skills not only through classroom knowledge, but also through hands-on participation in practical areas such as community service, public health, and medical assistance, thereby deepening their understanding and mastery of professional knowledge in complex and dynamic social situations. This process can not only effectively improve students' practical ability, but also promote them to form a more comprehensive way of thinking, and enhance their self-reflection consciousness and critical thinking ability. "Service-learning" mode guides students to actively participate in society through service activities, cultivates their sense of social responsibility, enhances their sense of teamwork, and further stimulates their potential to solve practical problems. The core value of this model is that it breaks through the limitations of the traditional education model, not only promotes the growth of individual students, but also provides a new perspective and path for the reform of the entire education system. In this process, interdisciplinary integration and diversified learning methods have become important supporting forces, making education no longer a single knowledge infusion, but a dynamic, practice-oriented growth process.

2.2 To Promote Students' Social Responsibility and Humanistic Care

The core of "service-learning" mode lies not only in imparting knowledge, but also in placing students in real social situations through practice, so as to deeply understand the connotation of social responsibility. In this model, students do not simply accept classroom knowledge, but gradually perceive and assume responsibility for society by participating in practical work such as community service, volunteer activities and public health. This deep experience and reflection encourages students to understand the complexity and diversity of public affairs from a personal perspective when facing social problems, and to reflect the spirit of humanistic care in practical actions[2]. More importantly, this process is not a one-way service delivery, but a two-way interaction. In the process of interacting with the service objects, students not only contribute their professional knowledge and ability, but also gain more understanding and understanding of social issues in the process of service. This interaction not only allows students to realize that their knowledge and skills can affect the lives of others, but also stimulates their concern and action in areas such as social vulnerable groups and public health, thereby deepening their understanding of humanistic care. By combining social service with academic learning, the "service-learning" model provides students with a broad platform to demonstrate and practice social responsibility. In this process, students gradually grow into citizens with both professional ability and social responsibility. This multi-dimensional training method undoubtedly lays a more solid humanistic foundation for their future career and life development.

2.3 Enhancing Interdisciplinary Cooperation Capabilities

The "service-learning" model provides students with a unique platform for

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interdisciplinary collaboration by closely combining theoretical learning with social practice. The implementation of this model usually requires students not only to work in their own subject area, but also to cooperate and communicate extensively with classmates, experts and social service clients in other disciplines. In this process, students often need to integrate and apply knowledge and skills in multiple fields such as public health, sociology, psychology, and even law. This kind of interdisciplinary cooperation is not only a simple knowledge sharing, but also a collision and integration of ideas and methods between multiple disciplines, enabling students to solve practical problems from a multi-angle and all-round perspective to improve their comprehensive analysis and problem-solving abilities[3]. When dealing with complex public health issues, especially tasks such as the prevention and control of infectious diseases, students' ability to collaborate across disciplines is particularly important. For example, in programs to combat infectious diseases, medical students work with public health experts, social workers, and psychologists to integrate theories and methods from various disciplines to address public health crises in the community. This kind of collaboration not only helps students to broaden the boundaries of their knowledge and improve their critical thinking skills, but also helps to develop their ability to communicate and collaborate effectively in diverse teams. Through interdisciplinary collaboration, students are able to realize the limitations of knowledge and learn how to integrate resources from different fields in practical work to address complex and dynamic social issues.

3. Problems Existing in the "Service-Learning" Model in the Teaching of Infectious Diseases in Higher Vocational Colleges

3.1 Insufficient Teaching Resources and Social Service Opportunities

In the teaching of infectious diseases in higher vocational colleges, although the "service-learning" model has great potential, its implementation faces the severe challenge of insufficient teaching resources and social service opportunities. Many higher vocational colleges are relatively short of educational resources, especially in the practical teaching of medical majors. As a highly specialized discipline, the teaching of infectious diseases relies not only on the teaching of theoretical knowledge, but also on a large number of practical links[4]. However, in reality, many colleges and universities have failed to establish perfect internship and practice platforms, especially in the specific operation of infectious disease prevention and control, and students lack opportunities to contact with real social situations. The root cause of this problem is that higher vocational colleges generally lack deep cooperation with social service agencies, public health departments and other related fields, which makes it difficult for students to gain experience in actual public health services, and can not apply the knowledge learned in the classroom to the real world. Furthermore, many colleges and universities are faced with a lack of sufficient partners and internship bases when organizing service learning programs, which not only restricts students' practical opportunities, but also leads to a disconnect between theory and practice. Due to limited resources, it is often difficult for schools to provide adequate funding, equipment and professional guidance, resulting in a significant reduction in the effectiveness of service-learning. This series of problems not only affect the depth of students' learning, but also hinder the goal of vocational colleges to train infectious disease talents with solid practical ability. Therefore, how to make up for the shortage of resources and expand the opportunities of social services has become the key issue to be solved urgently in the current education reform.

3.2 Constraints on Teachers' Professional Ability

In the process of the implementation of "service-learning" model, the restriction of teachers' professional ability is undoubtedly an important factor that restricts its effective promotion and in-depth development. As a core course in the medical discipline, the teaching of infectious diseases requires not only solid professional knowledge and academic background, but also rich practical experience and flexible teaching methods [5]. In reality, many teachers in higher vocational colleges, especially in the field of infectious

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diseases, are generally faced with the problem of insufficient practical experience. Although many teachers have certain theoretical knowledge, they lack hands-on experience in real infectious disease prevention and control work, which makes it difficult for them to effectively combine abstract theories with specific practical situations when teaching students. What is more serious is that the teaching concept of some teachers still stays in the traditional knowledge infusion mode, and they lack the ability to effectively integrate the innovative education mode of "service-learning" into the teaching content. They lack systematic understanding and teaching method guidance on how to cultivate students' social responsibility and practical ability through social service and practical activities. Therefore, this lack of professional ability not only affects the teaching quality, but also restricts the growth and ability improvement of students in social practice. In the promotion of "service-learning" model, there are also shortcomings in teachers' interdisciplinary cooperation ability. Since the prevention and control of infectious diseases involves many fields such as public health and sociology, teachers' interdisciplinary collaboration ability is particularly important, but many teachers in higher vocational colleges have limited training and development opportunities in this field. On the whole, the limitation of teachers' professional ability makes the potential of "service-learning" model not fully released, and it is urgent to promote the optimization and development of this model by strengthening teachers' practical experience accumulation and teaching ability training.

3.3 Students Lack Enthusiasm for Participation

In the process of the implementation of "service-learning" model, the problem of students' lack of participation enthusiasm is particularly prominent, which directly affects the teaching effect and the realization of the expected goal of the model. Although the "service-learning" model is supposed to provide students with a deep learning platform that combines theory and practice, the actual situation is that many students' enthusiasm for participating in this model is far from expectations. Some students lack sufficient awareness of this new form of education and consider it more of an extra burden than an opportunity for personal growth and professional development. Such misunderstanding and resistance often make them have reservations about participating in social service activities, and even selectively ignore or postpone relevant practical tasks in the course design. In the face of heavy academic pressure, students often find it difficult to balance the time arrangement between theoretical study and social service, which leads to a further decline in their enthusiasm to participate in service-learning projects. The curriculum arrangement and evaluation system of higher vocational colleges often focus on the assessment of theoretical knowledge, but ignore the value of practical activities. This single evaluation standard also indirectly weakens the motivation of students to participate in service-learning activities. Students' participation motivation is often affected by insufficient external incentives, such as lack of credit recognition, social recognition and actual reward mechanism, so that they fail to fully realize the positive impact of participation in social service on personal growth and career development. In order to stimulate students' participation enthusiasm, it is urgent for higher vocational colleges to innovate in curriculum design, evaluation system and incentive mechanism to create more participation opportunities that meet students' needs, so as to encourage them to truly obtain knowledge transformation and practical ability improvement from the "service-learning" mode.

4. Optimization Countermeasures of "Service-Learning" Model in Infectious Disease Teaching in Higher Vocational Colleges

4.1 Strengthen the Integration and Cooperation of Resources Inside and Outside the School

In order to optimize the application of "service-learning" model in the teaching of infectious diseases in higher vocational colleges, it is necessary to start from the integration and cooperation of internal and external resources. In reality, many higher vocational colleges are faced with the problem of insufficient educational resources and lack

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of social service opportunities. With the help of external resources and interdisciplinary cooperation, we can effectively make up for this shortage and improve the teaching quality. Taking a higher vocational college as an example, the school cooperated with the local public health department to establish an internship base for infectious disease prevention and control. Through this base, students can not only participate in the actual work of infectious disease prevention and control, but also get the latest industry dynamics and practical experience through exchanges with public health experts and epidemiologists. For example, in a large-scale influenza prevention and control internship, students worked with hospital staff to carry out influenza vaccination, publicity and case tracking, which accumulated valuable practical experience and deeply understood the implementation effect of public health policies and measures in the prevention and control of infectious diseases. This practice not only improves students' professional quality, but also strengthens their sense of social responsibility. The school also actively promotes interdisciplinary cooperation, and carries out joint teaching projects with teachers and students in sociology, psychology and other disciplines. For example, combined with social behavior research in infectious disease prevention and control, students participated in psychological counseling and community mobilization, and learned how to effectively communicate with the public in epidemic prevention and control. This kind of interdisciplinary cooperation not only allows students to exercise cross-disciplinary thinking and collaboration skills in a diversified teaching context, but also helps them to comprehensively analyze problems from multiple perspectives and improve their comprehensive ability. Furthermore, the school also cooperates with other higher vocational colleges and enterprises to carry out joint teaching and practical training projects, so that students can not only participate in the teaching activities of the school, but also have access to practical opportunities provided by other colleges and enterprises, thereby broadening their horizons. During the internship of drug research and development for infectious disease prevention and control in a biopharmaceutical company, students directly participated in drug research and development, clinical trials and other links, and gained cutting-edge knowledge and skills in the industry. Through this interschool collaboration, schools can not only expand the impact of the service-learning model, but also give students a holistic experience in a more diverse environment.

The integration and cooperation of resources inside and outside the school is the core of optimizing the "service-learning" model. By working with social service agencies, public health departments and medical institutions, students gain valuable practical experience in real social situations; Through interdisciplinary collaboration, students are able to solve complex public health problems from multiple perspectives; Students are exposed to a wider range of resources and opportunities through joint teaching programs between schools and corporations. Only through these multi-dimensional cooperation can the "service-learning" model be effectively implemented in the teaching of infectious diseases in higher vocational colleges and continuously improve its teaching effect.

4.2 Improve the Comprehensive Quality and Practical Ability of Teachers

In order to effectively promote the optimization of "service-learning" model in the teaching of infectious diseases in higher vocational colleges, it is very important to improve the comprehensive quality and practical ability of teachers. Teachers not only need solid theoretical knowledge, but also need to have rich practical experience, in order to better combine theory with practice, improve students' practical ability and social responsibility. However, in reality, many teachers of infectious diseases in vocational colleges have shortcomings in practical experience, especially in the prevention and control of infectious diseases and clinical practice. Take a vocational college as an example, in order to improve the practical ability of infectious disease teachers, the school actively promotes teachers to participate in social service projects and public health events. In a local influenza prevention and control, the school encouraged infectious disease teachers to participate in the actual prevention and control work, cooperate with public health departments, and directly

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participate in epidemic surveillance, influenza vaccination and community publicity. Through this practice, teachers can not only deeply understand the complexity of infectious disease prevention and control, but also combine practical problems with classroom teaching to provide students with more vivid and practical learning cases. The school also regularly organizes teachers to participate in professional development training and academic exchange activities, and invites experts in the field of public health to conduct lectures and seminars to help teachers understand the latest trends and research results of infectious disease prevention and control. The school also supports teachers to participate in academic conferences and field trips at home and abroad to broaden their horizons and improve their ability to respond to public health crises. For example, teachers participated in an international public health conference and learned advanced concepts and technologies for the prevention and control of infectious diseases. After returning to school, they updated the curriculum based on these new knowledge, which greatly improved the practicality and timeliness of teaching.

Teachers' ability to collaborate across disciplines is also crucial. The teaching of infectious diseases often needs to be combined with public health, sociology, psychology and other disciplines, and schools should promote the collaboration between teachers and teachers of other disciplines to promote the integration of knowledge and methods. For example, the school regularly holds interdisciplinary teaching seminars, inviting teachers from different disciplines to discuss how to integrate the "service-learning" concept into their respective teaching. In this kind of exchange, teachers can broaden their teaching horizon and improve their comprehensive analysis and solution ability in complex public health problems. Through these multi-dimensional support and training, teachers can not only improve their professional quality, but also better combine theory with practice, provide students with a richer learning experience, and promote the in-depth implementation of the "service-learning" model in the teaching of infectious diseases.

4.3 Stimulate Students' Enthusiasm and Sense of Participation

In the practice of "service-learning" model, stimulating students' enthusiasm and sense of participation is one of the core elements to ensure the successful implementation of this model. Students' identification and interest in the "service-learning" model are often influenced by its internal motivation and external incentive mechanism. Higher vocational colleges should stimulate students' enthusiasm for participation through various incentive means, such as credit certification, social practice awards, academic honors, etc. Linking practical activities to academic evaluation can not only increase students' motivation, but also make them realize the close connection between social service and academic growth. When designing the "service-learning" project, schools should fully consider the actual needs and interests of students, and combine the social service project in the field of infectious diseases with the professional direction and interests of students. For example, field research, community service and health education activities closely related to infectious disease prevention and control and public health education are organized to enhance students' sense of participation and belonging. When students participate in practice, they are often eager to get more guidance and feedback. Schools should provide more flexible guidance to students to ensure that each student can receive adequate support and encouragement in the service process. In this process, teachers are not only imparting knowledge, but also guiding students' growth. By providing students with timely feedback and reflection opportunities in practice, students are able to self-assess and reflect after each service activity, thereby enhancing their comprehensive abilities and social responsibility. Through these multi-dimensional strategies, students' enthusiasm and enthusiasm for participation will be effectively enhanced, thus promoting the deepening and improvement of the "service-learning" model.

5. Conclusions

Integrating "service-learning" model into the teaching of infectious diseases in higher vocational colleges can not only improve students' practical ability and social

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responsibility, but also promote interdisciplinary cooperation and enhance students' comprehensive quality. However, in the current practical application, the limitations of teachers' professional ability, the lack of teaching resources and the lack of students' participation enthusiasm are still restricting the in-depth implementation of this model. To this end, we must strengthen the integration and cooperation of resources inside and outside the school, improve the professional quality and practical ability of teachers, stimulate the enthusiasm of students to participate in many aspects of optimization countermeasures, to promote the continuous improvement and development of this teaching model. Only through continuous innovation and practice, can we cultivate more high-quality talents with social responsibility, practical ability and innovative thinking in the teaching of infectious diseases, and make contributions to the progress of social public health.

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