

The Training Method of Applied Talents in Ophthalmic Technology Based on the Industry-University-Research Approach

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Key words: Vision Technology; Talent Training; School-Enterprise Cooperation; Training Mode

Abstract: With the rapid development of science and technology and the continuous improvement of people's living standards, people's vision requirements are getting higher and higher, and the demand for opto-optic technicians in the opto-optic industry is also increasing. With the main goal of implementing industry-university-research, we will vigorously carry out teaching reforms, introduce new teaching modes and curriculum systems, continuously improve school conditions, improve the quality of talent training, build a strong and highly qualified teacher team, and realize the integrated development of industry-university-research. This article mainly discusses that in order to adapt to the development of the times and the requirements of global medical education, higher vocational colleges should cultivate a group of eye-light technology professionals with strong hands-on ability, innovation and practicality. The survey in this article shows that the proportion of graduates going to hospitals, companies, colleges to teach, and self-employment is 57.7%, 35.8%, 3.7%, and 2.8%, respectively. Most of the 4-year graduates enter the hospital and engage in the clinical work of optometry. However, due to the lack of the optometry professional title series in the current medical system, they may not be able to advance or pass other technical series. Due to the lack of the series of professional titles of opto-optic technology, it has seriously affected the development of opto-optical education and graduate employment, as well as the healthy development and discipline development of the entire opto-optic industry.

1. Introduction

The society attaches more and more importance to the training of opto-optic professionals, and the opto-optic industry in our country has also begun to flourish. However, the employment of highly-educated opto-optic technicians trained by universities such as Wenzhou Medical University is mostly a hospital, which cannot meet the large market. It is difficult for optical shops and related companies to retain highly educated talents, and graduates of higher vocational education can control the skills required by corporate positions. Therefore, most of the recruitment is for higher vocational graduates. The demand for light talents is increasing [1-2]. However, on the one hand, there are relatively few ophthalmology majors in higher vocational colleges. On the other hand, due to limited conditions and lack of a formal and systematic ophthalmology education management model, the quality of school running is uneven, which cannot meet the needs of industry development, and enterprises cannot recruit people. The stability of graduate employment is also relatively poor, and there is a shortage of high-level talents in the vision industry [3]. All these indicate that the higher vocational colleges need to strengthen the development of optometry technology specialty, and the healthy development of a specialty cannot be separated from the scientific talent training model [4-5].

At present, there are more and more myopia personnel in China, but there is a serious shortage of high-skilled optometry professionals [6]. In China's current higher education, we have always followed the path of combining teaching and practice, creating a comprehensive development of production, teaching, and research, and striving to cultivate high-quality professionals for social development [7-8]. For local colleges and universities at all levels, the main task at present is to

accelerate the implementation of the cooperative education model of production, teaching and research, and to cultivate practical talents for social development [9]. In this situation, people's satisfaction can only be achieved by adapting to social development, cultivating high-quality optometry professionals, and promoting the rapid development of the medical optometry and eyewear matching industry [10].

Ophthalmic optics is a bright subject. This subject protects the health of vision, improves and strengthens vision, and achieves clear, comfortable and durable vision. In the development of opto-optical education, each country will develop ways to adapt to talent training according to the living standards, consumption levels and market conditions of its own people [11].

2.Method

(1) Literature analysis method, which is a method of collecting, analyzing and researching relevant literature data, and selecting information from it to achieve a certain research purpose. The main idea is to solve the problem of how to select the materials suitable for the research of the graduate training model of collaborative innovation of industry-university-research in many literatures, make reasonable analysis and use of these materials, and find and summarize the successes and deficiencies of the predecessors. Carry out broad ideas.

(2) Comparative method. Due to the influence of different historical periods and national backgrounds, the review of the corresponding literature, the analysis of specific problems, and the solution path in the research process need to use the comparative method to make corresponding judgments to find out. The general law of development establishes a practice path that is consistent with the domestic graduate research mode of collaborative research and innovation.

The function of the government should be changed from micro management in the past to macro guidance and regulation. The role of the government should be shifted to creating a platform for equal competition, formulating incentives and innovations to encourage the integration of production, education, and research, talent flow, and intellectual property protection. Revision and improvement of laws and regulations, policies and systems and other tasks come up. China should accelerate the establishment of a system of industry-university-research integration, a complete legal environment, and complete rules and regulations to create a good external environment and conditions for the cooperation between universities, research institutes and enterprises. Prerequisites and guarantees. The state attaches great importance to the connection among institutions of higher learning, research institutes and enterprises, and generally believes that "learning in universities and technology in society". In the case of limited national financial resources, colleges and universities and research institutes can obtain funding from enterprises through cooperation with enterprises; they can also help enterprises solve technical problems, especially by solving practical problems, and change the stereotype of researchers' departure from reality; It is of great benefit to improve the mode of running colleges and universities and to cultivate applied talents. However, in China, for a long time, there has been a lack of enthusiasm and initiative between universities, research institutes and enterprises, and it is difficult to find a meeting point for each other: companies seeking cooperation with institutions of higher learning and research institutes are limited to short-term projects. Or they tend to directly purchase molding technology to allow universities and research institutes to provide follow-up technical services; while the scientific and technological research conducted by universities and research institutes is mostly basic research and has little market application value. Only by mobilizing the enthusiasm of the tripartite relationship between universities, research institutes and enterprises, and finding a joint entry point, can the healthy development of the integration of production, education and research.

3.Experiment

In this study, if allowed, the interviews of the interviewees were recorded, compiled into written records, and then analyzed.

This article encodes the interviewees, sets the interview outline code for professional students to

I, sets the interview code for professional teachers to II, sets the interview code for professional leaders to III, and interviews with relevant company leaders The coding is set to IV. There are 12 professional students, which are coded as I-1 to I-12. Among them, there are 2 in 2014, 3 in 2015, 3 in 2016, and 4 in 2015. There are 6 professional teachers. The codes are set to II-1 to II. 6; There is one professional person in charge and the code is set to III-1; four persons in charge of the relevant enterprise are set to code IV-1 to IV-4.

Case code in the dissertation example: Zhang San is the third person among professional students. The second question in the interview outline is helpful to the author's text. The author will set the encoding to I-3-2 in the text. Other encodings Settings and so on. The outline of the interview mainly starts from the four aspects of practical teaching content, teachers' situation, construction of training bases, and teaching management. Interviews are conducted with students who are majoring in optometry, professional teachers, professional leaders, and relevant company leaders in the eyewear industry. This form roughly understands the current situation of practical teaching of eye vision, analyzes the existing problems, supplements the relevant information of the questionnaire, provides reference for the author to put forward countermeasures and suggestions, and lays the foundation for the construction of a practical teaching system with workplace characteristics of eye vision.

4. Discuss

4.1 Analysis on Employment Status of Graduates of Optometry in China

Table 1. Institutional statistics

Colleges and universities	Quantity	Eductional systme	Quantity
Technical secondary school	22		
junior college	29		
regular college course	12	4 years	10
		5 years	2

At present, many schools (institutions) in China have established vision majors. There are currently two forms of visual education, namely diploma education and on-the-job education. Diploma education includes secondary education, college education, undergraduate education and graduate education. As shown in Table 1, there are currently 6 schools with majors in ophthalmology, including 22 middle schools, 29 universities, and 12 undergraduate colleges. Graduates of technical secondary schools and vocational colleges mainly enter the eyewear industry and work in the optometry industry. Some large eyewear companies are also engaged in eye care. The 12 schools offering undergraduate majors include 10 in 4 years and 2 in 5 years. Most graduates work in hospitals. Among them, most five-year graduates are engaged in ophthalmology or other clinical work because they can obtain a medical practitioner license. As shown in Figure 1, the Medical Technology Ophthalmic Optics Undergraduate Education Expert Collaboration Group conducted a corresponding survey on the work of 4-year undergraduate ophthalmic optics graduates in China. At present, the proportion of graduates going to hospitals, companies, universities to teach, and start their own businesses is 57.7%, 35.8%, 3.7%, and 2.8%, respectively.

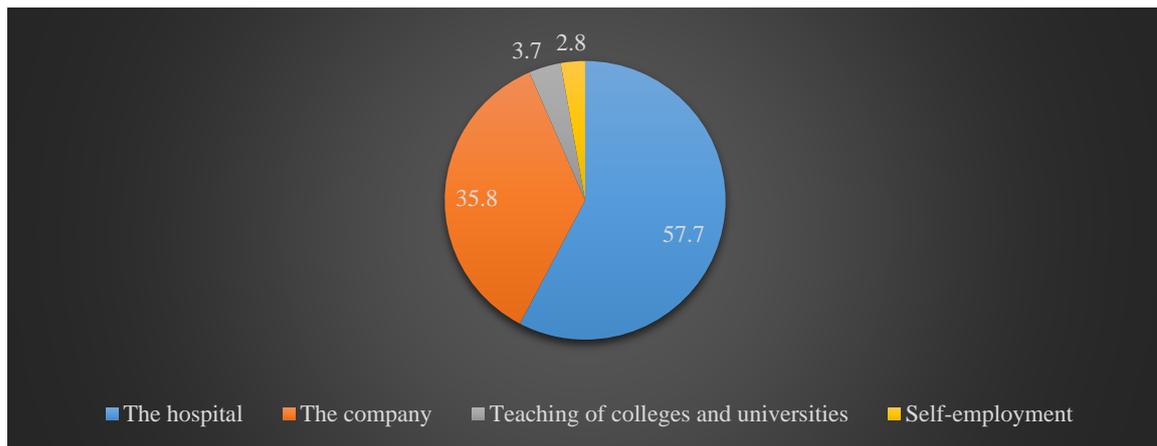


Figure 1. Pie chart of graduate employment

Many companies have realized that in order to gain a foothold in the market, participate in market competition, and maintain their economic status, they must have strong scientific research and talent advantages, otherwise they will be easily eliminated by all markets. In addition, companies, universities, and research institutes have independent intellectual property rights over their own scientific research results. Therefore, companies must carefully consider where these advantages come from? Can the advantages they have last? Can independent intellectual property rights be fully utilized? The answer is obvious. The three parties of enterprises, universities and research institutes are integrated into a tight system. This system will also produce a newer and stronger collaborative productivity and better improve the company's research and development capabilities.

4.2 Recommendations

The specialty of opto-optic technology in colleges and universities has its own characteristics. Therefore, it is necessary to scientifically arrange the curriculum, conduct market research, inspect the students, and arrange a unique teaching plan with "artisan spirit". The timetable must be scientific, rational, planning, and planning. In terms of curriculum design, the teaching content should be practical and novel. The teaching content should be close to life, society, and students, so that students can calm down and concentrate on their studies. Our country needs craftsman talents, and the times need craftsmanship. In particular, the development of the eyewear industry in China is slow, the starting point is low, the talents are uneven, and the craftsmanship is lacking. Innovative talents of artisans can bring fresh blood to society, and society needs a large number of excellent professional and practical talents. Strengthen the promotion of "craftsmanship spirit", strengthen the new type of "school-enterprise" cooperation, and cultivate talents suitable for the needs of industrial development. Glasses production bases throughout the country should maximize the available resources and train students with "artisan spirit" with professional characteristics .

Strive to ensure that students participate in practical activities in advance, carry out post placements, create more opportunities for students to reach customers, help improve students 'communication skills, learn to communicate with customers, and improve students' communication skills and professional ethics. Colleges and universities also need to thoroughly understand the current demand for talents in enterprises and implement "order" training to ensure that students can quickly become the backbone of the business after entering the job, which not only achieves the satisfaction of the enterprise, but also helps students achieve employment. At the same time, students The targeted training and targeted employment have also achieved the goal, which has prevented the phenomenon of non-use of studies and difficult employment in the past.

5. Conclusion

In short, combining production, teaching, and research will greatly promote teaching reform, update teaching concepts, and improve teaching quality, which is conducive to the formation of a

talent training model, "consolidate comprehensive quality education as the core, focus on professional positions and business capabilities, and combine production, The professional development of "basic methods of education and research" is conducive to vision and vision, promotes the formation of students 'scientific research consciousness, is conducive to the cultivation of students' practical ability and innovative ability, and improves the quality of talent training. The school's resources have been optimized to provide a base for training and practice for students. Promote the improvement of school running conditions, comprehensively promote practical teaching, and establish a new practical teaching model and a new curriculum system. It has promoted the construction of university teachers and improved the overall quality. Clarify the direction of serving the society and continuously improve the ability to serve the locality. The employment rate of high-quality graduates is high, and the quality of employment is good. Universities and enterprises have realized complementary advantages, mutual benefit, and interdependence, which is conducive to the cultivation of professionals who adapt to the development of the times and the basic requirements of global medical education.

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