

Discussion on the mode and path of cultivating innovative talents in pharmaceutical industry

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Abstract. In recent years, with the support of the good policies of the national and local governments, the pharmaceutical industry has achieved unprecedented development, but the number of medical science and technology research and development personnel is small, the title structure is unreasonable, the enterprise product development level is low, the product added value is low, the competitive advantage is weak, the lack of independent innovation, based on the development needs of the pharmaceutical industry, Then the key factors and bottleneck problems restricting the development of the pharmaceutical industry are solved in the aspect of talent team construction. On the basis of empirical research, combining with the actual needs of the development of pharmaceutical industry, this paper discusses the specific measures of cultivating innovative talents.

Keywords: innovation; Talent training; pharmaceutical industry.

1. Introduction

Skilled talents are rare talents who are different from general technical workers and senior technical workers [1-3]. They are trained by long-term study, training and working practice in the technical workers. With the transformation of economic and social structure and the adjustment of industrial structure, the shortage of skilled workers, especially high skilled personnel, has become increasingly prominent. According to a sample survey, there is a serious shortage of skilled workers in the pharmaceutical industry and a shortage of high-skilled workers. There are 46 doctors and masters, 3 senior professional titles, 13 deputy senior professional titles, 2 National Innovative Enterprises and 1 Provincial International Technical Cooperation Base, there are 4 key high-tech enterprises in the National Torch Plan and 10 provincial engineering and technology research centers[4, 5] (**Table1**).

Table 1 Research table of basic situation of medical industry talents

Professional category	Research Direction	Research Platform Foundation
Pharmaceutical chemistry	Development and synthesis of Chinese medicine small molecule	exist
pharmacy	Chinese medicine preparation process research and development	exist
pharmacognosy	Exploitation of Traditional Chinese medicine resources	exist
pharmacoanalysis	Study on quality standard of Traditional Chinese medicine	exist
Microbiology and biochemical pharmacy	no	no
pharmacology	Study on mechanism of drug action	no
identification of Chinese medicine	Identification of Traditional Chinese medicine varieties	exist
TCM firing	Processing technology of Traditional Chinese medicine	exist
Quality standard of Chinese Medicine	Formulation of quality standards and specifications for Traditional Chinese medicine	exist
Chinese patent medicine	Study on preparation technology of Traditional Chinese medicine	exist
extraction of Chinese traditional medicine	Study on extraction technology of Traditional Chinese medicine	
traditional Chinese medicine for health care	interdisciplinary	No full-time researcher
Chinese medicine daily chemical products, Chinese medicine fungicide insecticide and Chinese veterinary drugs	interdisciplinary	No full-time researcher
Chinese medicine logistics and storage	Enterprise experience accumulation and improvement	No full-time researcher

2. Methods

A sampling survey was conducted on the professional structure and educational structure of pharmaceutical enterprises, and the computer was used to analyze the big data[6].

3. Results and Discussions

3.1. The structure of technical workers in pharmaceutical enterprises is unreasonable.

This sample survey covers 38 enterprises with a total number of 1589 people. Among them, there are 378 skilled talents with professional certificates. The general skilled workers account for 50% of the total number of employees, the proportion of technical talent gap in the sample enterprises is 26.3%. It can be seen that the total number of technical personnel in pharmaceutical enterprises is insufficient, and the proportion of certificate holders is low (**Table 2**).

Table 2 Situation of skilled talents in the pharmaceutical industry

region	companies	number of people	Professional title of skilled talents				Number of skilled talents needed in the next two years
			high	middle	elementary	nothing	
local	38	1589	19	59	300	1191	418
	The percentage of the total population		1.3%	3.7%	20.1%	74.9%	26.3%

3.2. Educational structure of skilled talents in pharmaceutical industry

Educational background structure of 378 skilled talents from 38 pharmaceutical enterprises, including 2 with master's degree or above, accounting for only 0.5%, and 63 with junior middle school degree or below, accounting for 16.7%. Technical secondary school or below education, accounting for 53.2% of the total number of technical workers, accounting for 32.2% of university graduates, pharmaceutical enterprises technical personnel overall education level is obviously low (**Table 3**).

Table 3 Summary of educational background of skilled talents in pharmaceutical industry

region	companies	number of people	education background				
			Bachelor degree or above	Undergraduate course	college	Technical secondary school	Under the high school
local	38	378	2	53.2	122	138	63
	The percentage of skilled personnel		0.5	14.1	32.2	36.5	16.7

3.3. Formulate specific goals and implementation plans for the development of R&D personnel

To grasp and respect the law of the growth of talents is the premise and basis of cultivating talents, condensing talents and giving full play to the role of talents effectively. The growth and emergence of talents usually tends to be relatively concentrated in a certain region, unit and group, which is the cumulative effect in the process of talent team construction. Therefore, it is necessary to formulate reasonable phased development or medium - and long-term development planning goals and introduce a series of safeguard measures [7].

4. Conclusion

Enterprises are an important force in cultivating skilled talents. Therefore, relevant government departments should fully tap the potential of enterprise internal training and make full use of their own training institutions. According to the survey, utilization rate is not high, most of the enterprise training institutions only their employees of the necessary safety and simple technical training, training institutions and government departments, vocational colleges lack of cooperation, after workers training and can't get the corresponding professional qualification, also makes the training less attractive, employees tend to be passive recipients rather than active participants. Therefore, the training of employees can be combined with the educational background of higher vocational colleges and the vocational qualification certificate education of the labor department, so that employees can obtain the corresponding educational background and vocational qualification certificate while receiving the training. According to the survey, 60% of enterprises are willing to cooperate with higher vocational colleges, especially in the field of skills training, 85% of enterprises are willing to carry out cooperation in this field, indicating that there is a large space for school-enterprise cooperation. How to transform the cooperation intention between enterprises and higher vocational

colleges into practical actions requires not only the efforts of both sides, but also the promotion and coordination of the government.

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