Research on the Development Status of Science and Technology Workers in Colleges and Universities in Wuhan

----Based on the Survey Data of Hongshan District from 2018 to 2019

Heai Zeng

Department of Science and Technology, Wuhan Technology and Business University, Wuhan 430065, China

Keywords: Wuhan; Science and technology workers workers in colleges and universities; Wuhan Hongshan district.

Abstract: Scientific and technological workers in colleges and universities are the core force of government think tanks and the main force to promote national scientific and technological progress and innovation. The research conducted an investigation and research on the living and working status of 160 university science and technology workers in Hongshan District, Wuhan. Aiming at the practical problems of scientific and technological workers, this paper analyzes the main factors influencing the enthusiasm of scientific and technological workers in colleges and universities, and gives some suggestions.

1. Introduction

The cultural confidence and the building of a cultural power. At the same time, a new round of scientific and technological revolution and industrial transformation is sweeping the world.Never before has science and technology so profoundly affected the future and destiny of our country and the well-being of our people.Its birth and rise have had an unprecedented and profound impact on the mode of production, way of life and way of thinking of human beings. For a long time,As one of the government think tanks, scientific and technological workers in colleges and universities have played a great role in promoting cultural progress and scientific and technological innovation, and made outstanding contributions. The living condition and working demand of scientific and technological workers in colleges and universities have become one of the focal points of government and society [1].

2. The Socio-cultural Basis of the Study

Wuhan, located in central China, is a megacity in the middle reaches of the Yangtze river, the capital of hubei province, an important industrial, scientific and educational base and comprehensive transportation hub in China, and one of the four major scientific and educational centers in China. wuhan is a famous historical and cultural city in China and one of the cradles of Chinese chu culture. Wuhan, a famous city of science and education, ranks third in the number of universities in China. Wuhan's high-tech industry, automobile industry and commercial circulation industry occupies an important position in China. At present, hubei has 72 academicians of the Chinese academy of sciences and the Chinese academy of sciences, 2,158 scientific research institutions, 28 state key laboratories and 19 international engineering and technology research centers. As of 2017, wuhan has 88 universities, 115,000 postgraduate students, 956,800 undergraduate and undergraduate students, 7 national key universities directly under the ministry of education, 25 state key laboratories and hundreds of key laboratories under the ministry of education. The total number of college students and graduate students is 1.0726 million. In recent years, wuhan has been accelerating the construction of a national high-tech innovation center and an industrial innovation center with global influence. All districts in wuhan are actively exerting their own advantages. Taking hongshan district of wuhan city as an example, hongshan science and technology association (hereinafter referred to as hongshan science and technology association)

  DOI: 10.25236/erems.2018.114

under hongshan district government directly provides front-line help and services to scientific and technological workers.

The "national science popularization day" activity of hongshan district in 2018 was launched in wuhan university of commerce and industry. On November 23, 2018, the list of 35 newly built academician and expert workstations was officially announced at the science and technology innovation conference held in wuhan. Wei fusheng, one of the newly built academician and expert workstations of wuhan university of commerce and industry, was admitted as the academician.. At present, after more than ten years of construction, the university ranks among the top of similar colleges and universities in China. Its ability to persist in scientific research and application innovation has greatly improved talent training, and it is a distinctive representative of private colleges and universities in China.

Scientific and technological workers in colleges and universities are the core force of scientific and technological support and innovation in wuhan city, and the top priority of scientific and technological talents in hongshan district lies in the scientific and technological researchers in colleges and universities. Therefore, in order to have a deeper understanding of the status quo of science and technology workers in colleges and universities in wuhan and better serve them, from September to December 2018, the survey site of wuhan university of business and technology issued questionnaires in the form of questionnaire core. 170 questionnaires of science and technology workers in hongshan district were collected, and 160 qualified questionnaires were removed. The effective recovery rate of the questionnaire is 94.1 %, which further provides some reference for the government to formulate science and technology policies.

3. Research and Analysis on the Development Status of Scientific and Technological Workers in Colleges and Universities

3.1 Young and middle-aged science and technology workers account for a large proportion, work long hours and heavy tasks, and have low personal life satisfaction

As the main force to promote social development and social progress, scientific and technological workers in colleges and universities have proved that the evaluation of scientific and technological workers' overall life satisfaction has a significant impact on the efficiency of scientific research. The satisfaction degree of college scientific and technological workers' physical and mental health status affects the quality of life, which in turn affects the output of scientific research. At present, the age between 30 and 50 in scientific and technological work in colleges and universities accounts for a large proportion, and the age difference is 20 years. Each age group pays different attention to the health condition, but intellectuals in colleges and universities have higher requirements on the evaluation of their health and life satisfaction than their peers in other occupations in society. Among the investigated population, 66 were male and 94 were female. The age structure ranges from under 30 to over 60 years old (figure 1). Educational background distribution structure, master's degree or above accounted for the largest proportion. The distribution of professional titles ranges from low level to high level, and the proportion of scientific and technological workers above intermediate level and secondary level is relatively large, accounting for 71% in total.

According to the survey data, the working intensity and working length of young science and technology workers in colleges and universities are relatively large. Although compared to older workers physically more advantage in energy science and technology, but relative to the experience, steady and stable relatively weak above, this means that the youth science and technology workers are still in a growth stage, and also a key stage, finalize the design has a great development space, there is a larger elastic factor, but for a long time, high strength work harmful to physical and mental health will be young scientists, figure2 intuitively demonstrated by research groups working hours and working intensity.

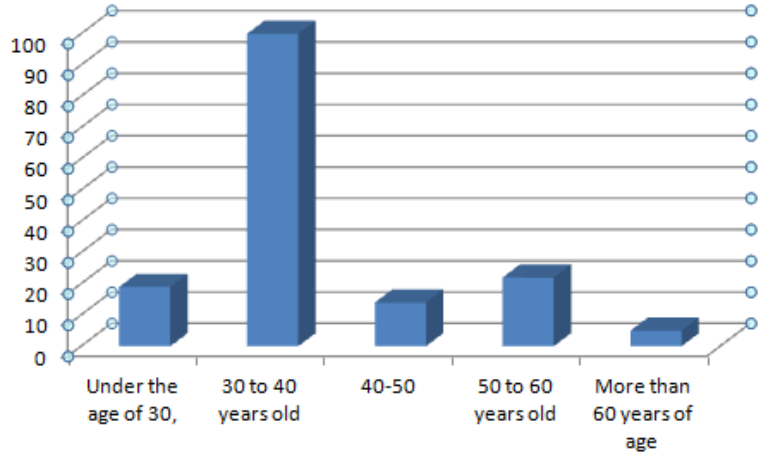


Fig.1 Age structure of scientific and technological workers in universities

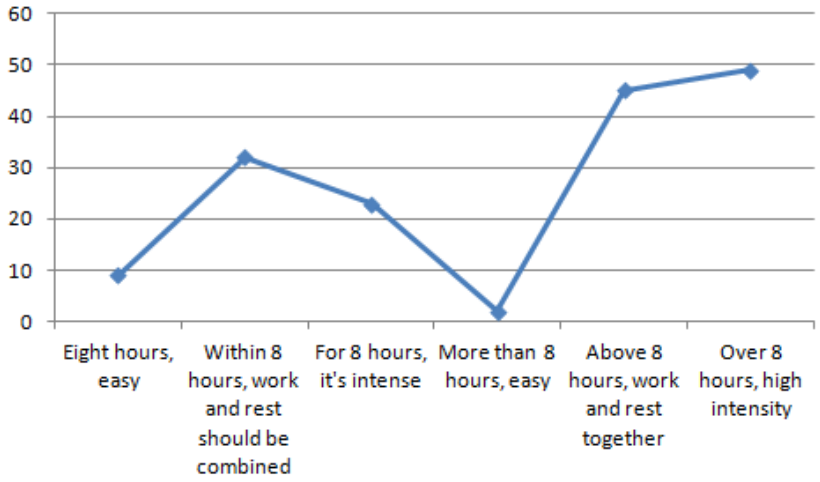
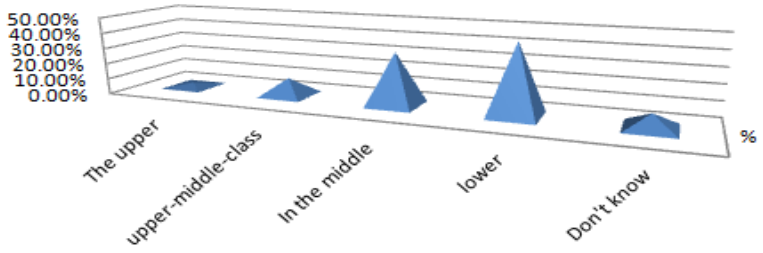


Fig. 2 Working hours and intensity of science and technology workers in colleges and universities

Discussion on personal income and social status. Working income has the most direct impact on the work and life of scientific and technological workers. As it affects the life satisfaction of scientific and technological workers (figure 3), the salary level often determines the flow of talents. As a result of the higher salary level, public universities are more likely to introduce and retain a group of scientific and technological workers with high knowledge level and strong scientific research ability. Wuhan's economy has developed rapidly in recent years, but the income of ordinary scientific and technological workers in colleges and universities is generally not high, especially in private colleges and universities. The living standard is low, and the economic income growth rate is far less than the rate of price rise, which directly leads to the continuous decline of the satisfaction of scientific and technological workers in material life.



	The upper	upper-middle-class	In the middle	lower	Don't know
%	2.50%	11.25%	33.13%	44.38%	8.75%

Fig. 3 Income of scientific and technological workers in colleges and universities

3.2 University of science and technology workers to participate in the activities of science and technology is a lack of timely policy funds platform support

This study mainly reflects the realization of individual value of scientific and technological workers from the types of scientific and technological projects they participate in (figure 4). Meanwhile, this study combines the realization of social value of scientific and technological workers with their willingness to contribute to society to conduct research. The demand to set up a team with the same research direction is the strongest voice among the surveyed people.

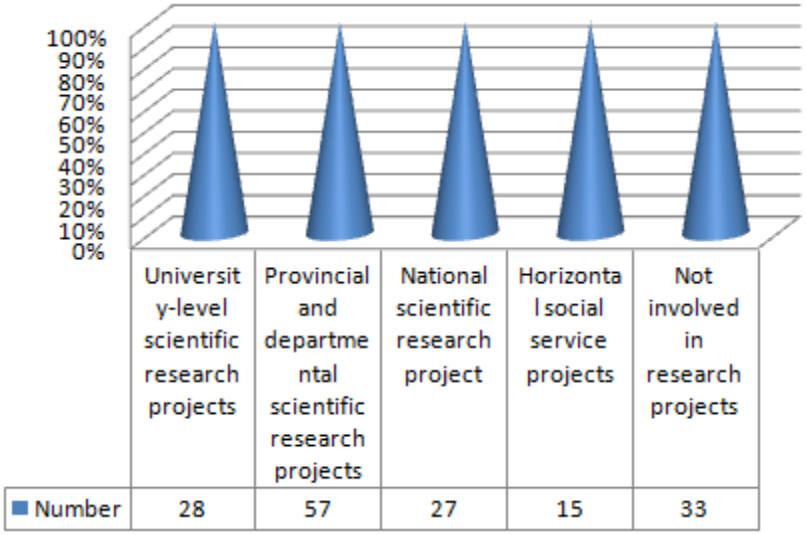


Fig.4 Types of scientific and technological workers in universities participating in projects

The biggest difficulties and confusions in participating in scientific research projects, transformation of scientific and technological achievements, and scientific and technological innovation (figure 5). As for the establishment of the research platform for scientific researchers, the number of teams with the same research direction is the largest, accounting for 71.25% (figure 6), ranking the second place in the demand of scientific and technological workers in colleges and universities.

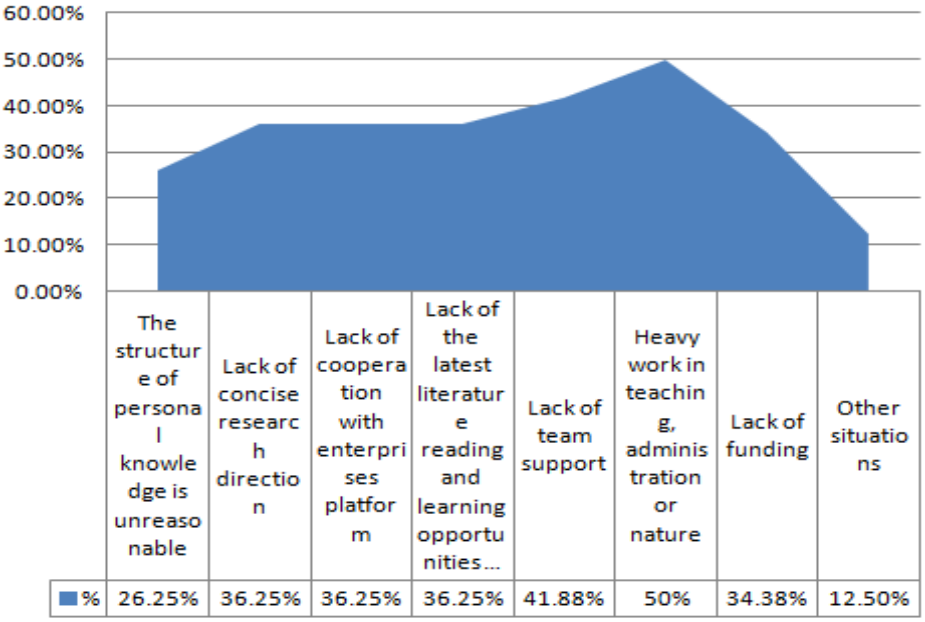


Fig. 5 The biggest difficulties and confusions faced by scientific and technological workers in colleges and universities

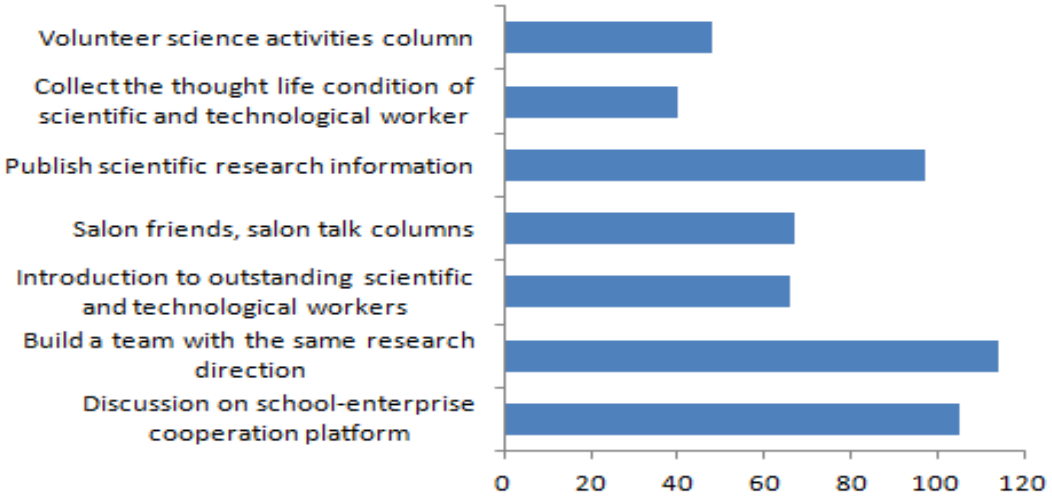


Fig.6 the appeal for the establishment of a research platform for scientific researchers

4. Conclusion and Discussion on Promoting the Development of Scientific and Technological Workers in Colleges and Universities

4.1 Advocate a fair income distribution mechanism for scientific research

First, in view of the wuhan university of science and technology personnel at the grass-roots level, the work intensity of the reality of big wage income is relatively low, reduce youth workers work pressure of science and technology, on the one hand, to solve their difficulties, on the other hand to improve its working conditions, eliminate their worries, give more control over my work free, do scientific research work is given priority to with science and technology workers.

Second, the superior management agencies in the scientific research of the income distribution mechanism, adhere to the principle of fair and impartial distribution, establish effective incentives and safeguard measures, and make full use of funds to support the innovation of scientific research activities of scientific and technical workers, establish reward fund for scientific research and innovation, the prominent science and technology achievements in scientific research workers to give relatively rich material rewards.

Third, departments at all levels need to provide opportunities for young scientists to continue education and guide their requirements and directions for training and learning. In view of the personal development space of scientific and technological workers, we should consider comprehensively, support the development of scientific and technological personnel in different disciplines accurately, and effectively solve all kinds of problems affecting the development of young scientific and technological workers. While appropriately increasing the basic income of scientific and technological workers, the higher management institutions should plan long-term talent strategic deployment, establish archives of scientific and technological workers, regularly track and interview the living status and work demands of various scientific and technological workers, and carry out various services focusing on the physical and mental health of scientific and technological workers in a planned way.

4.2 Sound policy assurance system adapted to the development of the new situation

First, we should attach importance to basic research. we should supplement and improve relevant policies and measures for the management of scientific and technological personnel in personnel, salary and incentive policies. In particular, in view of just entered the occupation of high education personnel age light, seniority is shallow, the treatment difference pressure is big objective situation, in income distribution, professional title evaluation policy, formulate the corresponding preferential policies to help, fully adjust their enthusiasm and creativity[2].

Second, around the activities of science and technology, perfect the evaluation system of scientific research, from the reward system, clear the allocation proportion of funds, promote the

project application of all kinds of policies, encourage the transformation of scientific and technological achievements, and try to realize the industrialization of the implementation of scientific and technological achievements of wuhan city, docking with the market demand, to achieve the good operation of "industry-university-institute" cooperation, promote economic development and social progress in wuhan city.

4.3 The government take the lead in building around all kinds of platform of scientific research

The management institution provides services around r&d platform, innovation and entrepreneurship incubation platform, industry-university-research collaboration platform, industrial service public service platform and so on. In the flat above Taiwanese businessmen, pay attention to national and provincial key laboratory and other kinds of high-end laboratory construction, construction of production-study-research cooperation platform and the carrier, agglomeration of wuhan hongshan district advantage resources of colleges and universities, conducting scientific research and development of new products, build industry-university-institute cooperation environment, strengthening the main body status of enterprises and speed up the talent introduction, optimize the industrial organization, guide the university innovation resources superiority and the development strategic emerging industries, such as wuhan photoelectric effective fusion, the benign interaction, collaborative innovation, realize the hongshan district university and enterprise to strengthen the innovative core competitiveness of industrial clusters in wuhan city, thus promotes the economic transformation and upgrading of the Yangtze river economic belt.

It is propose that that local government of wuhan city, as a large space in the future around the service of scientific and technological work, proposes that the local government of wuhan city should have a corresponding policy, enrich and utilize the talent pool of our provincial talent pool, encourage the scientific and technological workers to come off the campus, apply the scientific research achievements to local development practice, promote the transformation of the industrial transformation of wuhan city, promote the scientific and technological wisdom of the national and local economic construction, further promote the development of the science and technology services in wuhan city, raise the level of government organization and service ability, and promote the sustainable development of scientific and technological activities in wuhan city.

Acknowledgements

Fund project: Investigation and Research on scientists of hongshan science and technology association (No. 2018H13)

References

[1] Zhou guirong, liu wenjiang. Problems and countermeasures in the allocation of national science and technology talents [J]. Science and technology management of science and technology, 2006: 99 -102.

[2] Nie lei. Strengthening the self-establishment of enterprise science and technology association, the development of enterprise science and technology association should be useful -- a reflection on the self-establishment of enterprise science and technology association in the new era [J]. Science and technology association forum, 2007(12): 30 -31.