

Analysis on the Exchange of Young Scientific and Technological Talents in China

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Abstract: The exchange of young scientific and technological talents is conducive to the exchange of knowledge, skills, achievements and experience. This paper analyzes 6000 questionnaires. The results show that after the outbreak of COVID-19, international scientific and technological exchanges have become more and more, but mainly concentrated in developed countries. The forms of communication have become more and more diversified, but more academic; Different organizations have different financial support in scientific research cooperation, but there is a big gap in the exchange of young scientific and technological talents in rural areas. From the perspective of young scientific and technological talents exchange, this paper discusses how to optimize the talent exchange mechanism, build a platform for young scientific and technological talents exchange, and expand international cooperation.

1. Introduction

At present, China has entered a well-off society in an all-round way, and is striving to move forward and start a new journey. To build a modern socialist country and realize the great rejuvenation of the nation, we must build a new type of country with a strong talent team. China's economic strength, scientific and technological strength and comprehensive national strength are constantly improving. The exchange of scientific and technological personnel, especially young scientific and technological personnel, is constantly increasing. Knowledge, skills and achievements have been greatly promoted. Share experiences around the world. After the outbreak, the exchange pattern of young scientific and technological talents in China has undergone tremendous changes, especially the profound change in the communication mode worldwide, which has a certain impact on the effectiveness of scientific and technological cooperation within a certain range; This paper investigates and analyzes the expectations and needs of young scientific and technical personnel in terms of their technical exchanges and changes, and makes improvements.

2. Status quo of exchange of young scientific and technological talents

This study used the online survey platform of China Association for Science and Technology (CAST) to conduct an online questionnaire survey on the exchange of scientific and technological talents in Beijing, and collected 5000 valid questionnaires. According to disciplines, there are 830 young scientists and technicians in life sciences and agronomy, and 264 in agriculture, accounting for

16.4% and 5.2% of the national total. Through analysis, the scientific and technological exchanges of young scientific and technological talents in China show the following characteristics:

2.1. Online communication has gradually increased, especially after the epidemic

In order to understand the relationship between the network communication of young scientific and technological personnel with network technology and the outbreak of the epidemic, this paper analyzed the changing trend of young scientific and technological personnel participating in the network communication during the epidemic.[1] On the whole, the activity of network technical talents in network communication has improved, and promoted the transformation from offline communication to network communication mode. Before the outbreak of the epidemic, network communication accounted for 30%~39% of the total communication, 1111 people, accounting for 22.0%; After the outbreak of the epidemic, network communication accounted for 40%~49% of the total traffic, reaching 1015 people, accounting for 20.1%. In addition, in more than 60% of network communications, the number of patients after the outbreak increased significantly. Among the young agricultural science and technology talents, before the outbreak of the epidemic, the number of online communication accounted for less than 10% of the total communication, up to 60, accounting for 22.7%; Secondly, there are twenty to twenty-nine percent of the students, forty-nine in all.[2] After the outbreak of the epidemic, less than 10% of the online communication population was still the largest, reaching 42, but the overall percentage dropped to 15.9%; The second is 40-49% of online users, accounting for 15.2%. On the whole, after the outbreak of the epidemic, the number of online communication was between 40% and 49%, much more than before the outbreak. Among the young scientific and technological talents in the field of life sciences, the proportion of network communication in the total communication volume fell from 43.7% before the outbreak to 34.22% after the outbreak. The decrease is 9%, which is mainly due to the fact that the technicians who used to communicate relatively little online are now communicating online. Specifically, before the outbreak, Internet communication was between 40% and 49% of the total population, reaching 196, or 23.6%, followed by 50% to 59%, 216% and 179%. After the outbreak, the proportion of 40 to 49 percent and 50 to 59 percent of young people communicating on the Internet increased from 17.2 percent to 21.5 percent. Overall, the proportion of online communication within 59% was significantly higher than before the outbreak. Online communication and offline communication have their own advantages and disadvantages. After comparison, from the point of view of advantages, there are 3,220 young scientific and technological talents with cost saving as the biggest advantage in the online communication, accounting for 63.7% of the total number of people. The largest number of participants and the most time savings were 43.9% and 42.5% of the participants, both above 40%. In geospatial terms, there is only a 12.5% limit. From the perspective of disadvantages, the biggest adverse factor in network communication is the lack of in-depth communication, 62.6%, unable to know new scholars and not timely information sharing, 45.0% and 43.9% respectively, more than 40%. In intellectual property protection, the worst was 8.9%.

2.2. Frequent international scientific and technological exchanges, but concentrated in developed countries

The participation of young scientists and technicians from various countries and regions in international academic exchanges reflects their global mobility. Among 1986 young technicians, North America and the United States accounted for 39.3% of their scientific and technological cooperation. Japan and South Korea are 28.2%, 27.3% and 27.3% respectively; South American countries account for 1.1% and 2.8% of Africa respectively, indicating that the world's science and technology are mainly developed countries. Among the young agricultural technicians, there are 92

research institutes and experts from North America, the United States and Canada, accounting for 34.8%; The second is Japan, South Korea and other East Asian regions, with a total of 51, accounting for 19.3%. In addition, 94 people did not participate in foreign exchange activities, accounting for 35.6%. In terms of biotechnology, we communicated and cooperated with scientific research institutes and experts from the United States, Canada and other North America, totaling 319 people, accounting for 38.4%; 246 were from European countries, 242 from Japan and South Korea, 29.6% and 29.2% respectively. In addition, the number of people who have not participated in the overseas exchange meeting has also reached 100, reaching 12.0%. In recent years, China has made great progress in agricultural breeding, transgenic technology, agricultural machinery and cooperation with the United States; Canada, Germany, Australia; In Japan, Central Asia, Southeast Asia and other developed regions, agricultural technology and technology exchanges are also more frequent; Some countries and regions, such as South America, have relatively weak technical exchanges.

3. Problems in the exchange of young scientific and technological talents

3.1. Analysis of the exchange purpose of young scientific and technological talents

There are a variety of young scientific and technological talents participating in the Science and Technology Exchange Conference, including 1947 people who solved key technical problems, 1722 people who exhibited their achievements, and 1720 people who cooperated in different fields;[3] This shows that the main purpose of our young scientific and technological personnel to participate in the science and technology exchange meeting is to solve key technical problems, display achievements, interdisciplinary research and other problems. "Promoting professional development" and "combination of production, teaching and research" account for 6.5% and 13.2% respectively, which shows that the problem of combination of production, teaching and research still needs to be solved. In agricultural science, we should strengthen the scientific research cooperation of young scientific and technological personnel, and the development of cutting-edge, cross cutting and key technologies; Academic achievement is the highest teaching indicator, and 54.2% of the teaching quality indicators. In the field of biological science, it mainly solves key technologies, cross disciplinary integration, and displays research achievements, accounting for 38.9%, 33.1%, and 34.6%.

3.2. Analysis of the problems faced by the exchange of young scientific and technological talents

This paper divides the problems encountered by young technicians in exchange into 14 types, so as to better understand and grasp the difficulties and difficulties encountered by young technicians in exchange. The problems encountered in the exchange of young scientific and technical personnel in the field of agricultural technology include: insufficient exchange platforms, single communication methods, 88 communication channels, imperfect exchange mechanisms, and imperfect exchange mechanisms, accounting for 41.7%, 38.3%, 33.3%, and 31.8%. The problems encountered by young life science researchers in communication are: the communication channels are blocked, accounting for 34.3% and 33.4%.[4] In terms of global exchange, due to the constant escalation of trade protectionism, the technical competition between China and the United States is becoming increasingly fierce, which is of great significance for promoting the international exchanges of China's young agricultural technicians; This is unfavorable to the research of advanced agricultural technology in our country. The international exchange and cooperation with European and American research institutions and scholars encountered many obstacles, including technical personnel exchange, insufficient technical support, 55.7%, 32.6% and 23.1% respectively; including: Novel coronavirus, 271,242 foreign technical secrets; foreign government departments: 44.5%, 32.7%, 29.2%, 26.5% and 20.8%.

4. Suggestions on Promoting the Exchange of Young Scientific and Technological Talents

4.1. Optimize the talent exchange mechanism

Establish several universities, organize well-known academic seminars and academic activities, bring books, videos, etc. into the scope of communication, and achieve mobile and online communication. From the perspective of universities, institutions and companies; We should expand the working functions of scientific research institutions through multiple channels and in an all-round way, open up the information channels and matching between science and technology holders and demanders, and improve intellectual property rights and technology dissemination capabilities. Strengthen the multi-level scientific and reasonable work of national and regional young scientists; standardize the scientific and reasonable talent exchange and exchange, adhere to the "four aspects", and promote the scientific, reasonable and standardized young people. According to the objectives and existing problems of youth scientific research work in universities, a differentiated assessment mechanism is established to ensure that it can continuously and effectively play its due function in the assessment process[5].

4.2. It is to build a cooperation and exchange platform for young scientific and technological talents

Strengthening talent communication aims to strengthen the connections between employers, graduates, and international students, and establish a comprehensive knowledge base for scientific and technological information exchange, providing knowledge retrieval and digital mining services for young scientific and technological talents, thereby promoting a good environment for them to learn, absorb, and share knowledge with each other. This requires a "people-oriented" goal, guided by the "three modernizations", with the "three in one" as the core, and the "three major characteristics" as the development strategy with the "five major" as the core. Through various forms such as technology promotion, decision-making consultation, and achievement transformation, we promote reasonable communication among scientific and technological personnel among various enterprises, fully ensuring the effective exchange and linkage of young scientific and technological talents, and truly achieving the goal of integrating agricultural technology and economic development.

4.3. Expand international cooperation channels

In order to promote the development of young technical talents, we should be guided by an international perspective and committed to establishing a Youth Technical Talent Development Alliance. We should also actively coordinate with international scientific and technological talent special programs, funds, and other projects to establish an exchange and cooperation platform, and promote the participation of young technical talents from all over the world in academic exchange activities. On the basis of the technological frontier, the training and training program for international technical personnel has been formulated, the training objectives have been defined, and the opportunities for training, study and research in well-known foreign colleges and universities through practice, scientific research approval. Strengthen the relations with Africa, South America and Central Asia; organize agricultural science and technology cooperation among South Asian countries, organize project exchanges, expert visits and academic exchanges; and promote the growth of young scientific and technological talents in the form of scientific and technological breakthrough and innovative exchange platform. Scientific and technological cooperation with Europe, the United States and other countries will promote young scientific and technological talents to study abroad, visit and learn advanced technology, and establish a "direct immigration" mechanism under the

pressure of the United States to prepare for their return and development.

4.4. Respect the law of talent growth and realize the orderly transfer between generations

The creativity and output peak of scientific and technical personnel are usually 30-39 years old. In order to prevent the talent gap of different ages, it is necessary to make a comprehensive analysis; pay attention to the construction of talent team and the cultivation and utilization of all kinds of young talents. Training and utilization of young talents from different groups and with different growth stages, and targeted training and utilization should be conducted. At the same time, the growth of young scientific and technological talents also has a certain space for development, in the talent evaluation, selection, flow and other new mechanisms, can open up a channel for career development.

5. Conclusion

To sum up, the main characteristics of the current young scientific and technical personnel in China are as follows: during the active scientific research period, which is dominated by men and is 36 to 40 years old, the focus is on regions with more economic development, scientific research and teaching resources, academic exchanges and cooperation, and the leadership role of science, technology and technological innovation organizations. Synthesizing the above conclusions, we can get the following enlightenment: (1) Optimize the system of talent exchange; (2) Establish cooperation and communication with young technicians; (3) Expand exchanges with foreign countries; (4) Respect the law of talent growth.

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