

Scientific literacy plan announced

Understanding concepts seen as key to China's innovation goals

By ZHANG ZHIHAO
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The State Council, China's Cabinet, recently issued a new long-term national action plan for improving the public's scientific literacy over the next 15 years, with goals to make 15 percent of the country's population scientifically literate by 2025, and 25 percent by 2035.

The document, titled National Action Plan for Scientific Literacy 2021-2035, was released in early June. By the end of last year, about 10.56 percent of China's total population was scientifically literate thanks to a series of scientific outreach programs that have been enacted since 2006, when the last national plan took effect, according to the China Association for Science and Technology.

Scientific literacy refers to the understanding of scientific concepts and processes, as well as the ability to apply them in analyzing and solving real-life, practical issues. As a result, scientific literacy is an important part of a population's overall ability.

The improvement in scientific literacy is not only an intrinsic demand in the construction of an innovation-driven country, but is also a foundation project to create an innovative environment and cultivate innovative talent, according to the journal, Science Bulletin.

Meng Qinghai, vice-president of the CAST, told Xinhua News Agency that China has made remarkable progress in improving scientific literacy, but the proportion of the nation's scientifically literate population is still relatively low, with an imbalance between different demographics, age groups and economic statuses.

For example, 24.30 percent of Shanghai's residents and 24.07 percent of Beijing's residents were scientifically literate last year, and they were the top two in the nation in that regard. However, only seven provinces had a scientifically literate population higher than the national average of 10.56 percent last year.

Scientific literacy among western provinces (8.44 percent), rural regions (6.45 percent) and female citizens (8.82 percent) was noticeably lower than the national average.

"Without a general improvement in the public's scientific literacy, it will be difficult to establish a large, high-quality, innovative talent pool," Meng said. "Improving scientific literacy can benefit an individual's overall development, help modernize a country's governing systems and capability, and contribute to building a community with a shared future for mankind."

Over the next five years, the new plan says China will invest more resources in popularizing science, develop more science education infrastructure, enhance scientific outreach at the grassroots level and promote international exchanges and cooperation.

Priority groups

The plan is also targeting five priority groups for scientific literacy improvement: teenagers; farmers; industrial workers; the elderly; and civil servants and officials.

"We are changing our public scientific communication strategies



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from broad and general to being more precise and specific," Meng said.

For young adults, the plan aims to find ways to tap into their curiosity and imagination, encourage interest in science and nurture their potential to become future scientists.

To meet these goals, scientific education and science popularization will be enhanced from elementary school to the university level, especially in rural regions.

Meanwhile, students and teachers will have greater access to science education resources outside of the classroom, thus improving educators' scientific literacy, while granting students more opportunities to learn and do experiments.

In addition, more teachers will be trained in mathematics, physics, chemistry, biology, general technology and information technology as universities offer new science-related majors. China is hoping to train 100,000 science and technology communicators every year, some of whom will be deployed at the grass-

roots level to support local teaching staff.

For the agricultural population, the scientific literacy campaign will enhance education on environmental protection, energy and resource conservation, green production, disaster prevention, public health and changes in old customs and habits. The scientific literacy of girls and women in rural areas will also be improved.

Talent training, competitions, job fairs and other programs will be carried out to encourage innovation, improve scientific literacy among farmers and promote the modernization of rural regions. The plan seeks to train over 10 million farmers and cultivate more than 1 million village entrepreneurs to spearhead local innovation.

As for industrial workers, it is important to equip craftsmen and workers with new skills and opportunities for self-improvement through new training programs and education opportunities, according to the plan. Entrepre-

neurs should play a positive role in helping their employees become more scientifically literate and take advantage of their potential for innovation.

The plan also specified that government officials should familiarize themselves with China's science and technology development strategies and improve their ability to make decisions based on science. Scientific literacy will also be given weight during the recruitment and evaluation of civil servants.

Trust in science

According to the annual 3M State of Science Index survey, trust in science has significantly grown among Chinese citizens since the COVID-19 outbreak began, as 98 percent of participants agree — compared to 85 percent globally — that such trust will lead to a better future.

About 97 percent of people in China also said they trust science today. China showed the highest percentage of trust in science among all 17 nations surveyed.

Chen Rui, deputy director of the Center for Science and Technology Communication at the CAST, said science, technology and innovation have become key competitive concerns in international affairs.

The world needs the wisdom of the Chinese scientific community in tackling many common challenges, but China cannot contribute without effective science communication and a scientifically literate population, he said.

Zhang Jinhui, general manager of Zhongguancun Software Park in Beijing, said they recently established a science communication center dedicated to educating the public about the cutting-edge work done by high-tech companies in the park.

Effective scientific communication requires joint effort by scientists, companies, media and the public, he said. Meanwhile, it is also important to adopt new technologies, such as artificial intelligence, big data, cloud computing and others to enhance communication efficiency, he added.

Policy Digest

Vocational skills training to get a boost

China is expected to cultivate around 50,000 high-skilled workers and craftsmen during the 14th Five-Year Plan period (2021-25) to help promote its rural vitalization strategy by boosting vocational skills training in key rural areas, according to a document published on Saturday.

The document, jointly issued by the Ministry of Human Resources and Social Security and the National Administration for Rural Revitalization, said efforts will be made to ensure that every laborer from households that are prone to returning to poverty will have access to vocational skills training if they need it.

High school graduates from these households that are not admitted to higher education institutions but are willing to go to technical schools will be given access to education for skilled workers, it said.

To realize these goals, authorities will roll out a series of measures, including establishing more technical schools and vocational training institutions, beefing up financial support for the establishment of about 100 workshops that cultivate craftsmen for rural vitalization, and holding national vocational skills competitions themed on rural vitalization every two years.

Ministry makes it easier for orphans to get aid

Application and confirmation procedures for orphans and de facto unsupported children in China have been streamlined, with digital provincial borders being lifted as of June 30, according to a notice issued by the Ministry of Civil Affairs on June 24.

The move was aimed to provide basic living expenses and allowances for these children in a timely manner and effectively guarantee their legitimate rights and interests, the ministry said.

Under the new policy, an application could be accepted by local governments across the country, while authorities located in places where the children's household registrations were made, are responsible for verification.

A mechanism for data comparison and sharing will also be established to support verification efforts, the notice said.

Currently, monthly subsistence allowance of 1,140 yuan (\$176) is provided per child.

De facto unsupported children are those with parents who are unable to care for them due to reasons such as severe disability, serious illness, serving a sentence in prison and compulsory isolation for drug rehabilitation.

New measures aim to bolster manufacturing

Chinese authorities have rolled out a series of measures to bolster the high-quality development of the country's manufacturing enterprises, according to a guideline jointly issued by six governmental departments, including the Ministry of Industry and Information Technology, on Friday.

According to the guideline, by the year of 2025, China will aim to have cultivated 10,000 "little giant" enterprises enjoying high growth potential, advanced technology and a strong competitive edge.

Efforts will also be made to cultivate 1,000 manufacturing champions that focus on specific manufacturing segments with world-class technology, as well as a number of leading companies in the sector.

The development of these enterprises is necessary for stimulating the vitality of market entities and preventing hidden risks in industrial and supply chains, it said.

Noting that the high-quality manufacturing enterprises should improve their capabilities of independent innovation, the guideline also said these companies are encouraged to participate in the construction of national innovative platforms, including the manufacturing innovation center.

Priority given to science education among senior citizens

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The Supreme People's Procuratorate in March published a major false advertising case in which a company from Jiangsu province, in an alleged effort to dupe older adults, claimed its bottled water contained over 81 minerals that were beneficial to cardiovascular health.

Over 80,000 bottles were sold, and most were purchased by senior customers, who spent a total of 23 million yuan (\$3.54 million). An investigation revealed that the water was laced with magnesium chloride, which not only has no health benefits, but also may cause

gastrointestinal and heart issues if consumed in large quantities.

Fraudulent health products, wire scams, valueless collectibles, false contracts and financial tips are some of the most common methods of scamming seniors, according to the 2019 anti-scam guideline for the elderly issued by the Beijing Silver Industry Association, an organization dedicated to serving older adults, with the silver in its title being a reference to gray hair.

The guideline states that adults age 65 and above who live alone are most susceptible to these scams. This is further complicated by the fact that only 3.52 percent of people between the age 60 and 69 are scien-

tifically literate, which is far lower than the 10.56 percent national average, according to the China Association for Science and Technology.

To combat these issues, the State Council, China's Cabinet, highlighted the importance of improving scientific literacy among older people in the National Action Plan for Scientific Literacy 2021-2035. Meng Qinghai, vice-president of the CAST, said it is the first time this demographic has garnered such attention in relation to this subject.

"Now that there are over 264 million people above 60 in our country, the aging population and rapid development of technologies have

exposed various issues caused by the lack of scientific literacy in this demographic," Meng said.

"We need to help them enjoy the convenience and benefits of technologies and improve their ability to collect, identify and use information so that we can effectively tackle these scams," he added.

The action plan urges schools and nursing homes for the elderly to enhance health and technology education. Various media and grassroots communities should also disseminate information to help older adults live healthier lives.

Meanwhile, seniors can be both beneficiaries and contributors to science communication, and there

should be programs that can take advantage of their knowledge, help them serve as consultants and think tank contributors and promote scientific literacy, the plan said.

Li Zhihong, director of policy research at the China National Committee on Aging, said many older experts and scientists in their 60s are relatively healthy, and they have the time, energy and passion to share what they know with the public.

"The new programs will ensure these experts can keep contributing to their communities. It is a win-win for society," he said.

Xinhua contributed to this story.

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