



Science, Technology and Education News from China

Number 69 – March 2010

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Introduction

The newsletter of this month will start with a summary of the recently released draft of the *State Guidelines for Medium-to- Long-Term Education Reform and Development Plan*. To further adapt education to the current trend, Ministry of Education called for the opening of new bachelor programs and established a Guiding Committee to promote secondary vocational education. This month also sees the progress in China's high-speed railway construction as well as China's anti-H1N1 flue medicine.

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¹ Please click on the blue texts to activate the hyperlinks to either email addresses or related websites.



Policies

China's Education Development Plan for the Next Decade to be Finalized

The Ministry of Education's opinion solicitation regarding the draft version of *State Guidelines for Medium-to-Long-Term Education Reform and Development Plan (2010-2020)* will last until March 28, 2010, before it again goes back to the Ministry for amendment.

The plan marks not only the first education planning of China in the 21st century but also the guiding principles for China's education development in the next decade.

The currently released draft reflects the Draft Working Group's work in the past two years. After intensive internal research that involved "more than 1,500 workshops participated by central and local government, universities, social research institutes, academic societies, diplomatic bodies etc."². The Ministry then turned to the Chinese public for suggestions. According to the Ministry of Education statistics, during the first round of opinion solicitation, (between January 7 to February 28, 2009), "more than 14,000 emails and letters were delivered to the office, more than 11,000 pieces of suggestions were posted on Ministry of Education website and an additional 2.1 million posts on websites"³. On such basis, the plan was drafted directly by renowned scholars, officials from ministries and local government, presidents of universities, middle schools and primary schools as well as teachers and it was released in February 2010 for the second round of suggestion gathering, after 40 rounds of internal revision.

The goal of China's education in the next decade being set as "achieving education modernization, forming a learning society and transforming China into a country with rich and competitive human resources", **the 80,000 words plan stresses priority (of education), equality (in allocation of education resources) and quality (of all levels of education).**

The highlight lies in the goals, plans, projects and implementation methods of education reform in various fields, which takes up 1/3 of the entire plan. According to the plan, the reform covers some of the most criticized fields in Chinese education, such as talent training system, examination and enrollment system, school system, education provision system, administration system and further development of international cooperation and exchanges. With the Minister of Education, Yuan Guiren, claiming "everything that stands in the way of fostering Chinese talents must be reformed"⁴, **the government's determination on education reform appears to be very strong.**

When asked about what education would be like for all the Chinese in 2020, the Minister responded during one press conference as such: "At that time (2010), the difficulties for kindergarten entrance will be eased, and compulsory education will be further universalized and provided freely for everyone. And we'll also universalize senior secondary education to 90 percent. In terms of higher education, the enrollment rate will be 40 percent, which means we will be heading towards the universalization of higher education. At that time, the schooling period for the newly-added members of the labor force will reach 13.5 years, one year more than the current number of years. And for the majority of the labors, the schooling period will be 11.2 years, 1.4 years more than the current figure."

² <http://www.moe.edu.cn/edoas/website18/zhuanti/2010zqyj/djzw.htm>

³ <http://www.moe.gov.cn/edoas/website18/53/info1235955526281753.htm>

⁴ <http://finance.sina.com.cn/roll/20100228/11007471712.shtml>



News

1. Ministry of Education Calls for New Bachelor Programs

(MoE, 10-03-2010)

To foster talents in emerging industries such as low carbon and internet, Ministry of Education released the notice on the government's call for universities to open new bachelor programs in the new fields. According to Ministry of Education release, Chinese universities with qualified faculty and research capabilities are now encouraged to apply to Ministry of Education for the opening of new bachelor programs in the industries of:

1. New Energy industry: renewable energy technique, emission reduction technique, nuclear energy, recycling of resources. Industry, architecture, transportation system and new energy automobile that feature low-carbon are also emphasized.
2. Informatization technologies which stresses internet of things, sensor network, etc.
3. New Material industry, covering microelectronic and Optoelectronics materials and appliances, materials with new functions and high performance structure, nano technology and materials, etc.
4. Agriculture and Medical industry, including transgenic breeding technology, Innovative pharmacy and key techniques in basic medical equipments.
5. Space, marine and terrestrial exploration as well as resources development.

Specific criteria for application has been made clear by Ministry of education, and if possible, the new programs are expected to start admitting students in fall semester 2010. Chinese universities who offer new programs in cooperation with foreign partner universities or large enterprises will be given priority by Ministry of Education during authorization procedure.

2. Tiangong I Ready in 2011

(MoST Newsletter, No.576)

QI Faren, an authoritative Chinese space expert disclosed on March 3, 2010 that China will launch its first target spacecraft, or Tiangong I (a palace in the heaven) in 2011, making it be docked with Shenzhou 8, 9, and 10 capsules, before being transformed into a short term manned space lab.

According to QI, the number one key technology is extra-vehicular activity. Shenzhou 7 capsule has done it successfully. The next key technology to be accomplished is docking. Tiangong I will be docked with Shenzhou 8, 9, and 10 capsules in a time of two years. The third technology to be ventured is providing fuel, air, water and food supply to the space lab. The last key technology to be developed in the near future is the so-called Bioregenerative Life Support Systems. QI said Shenzhou 8 will be an unmanned spacecraft, though its followers, including Shenzhou 9 and 10 will be manned, aboard with two or three astronauts.

3. Beijing-Shanghai high-speed railway to open next year

(People's Daily, 15-03-2010)

The highly anticipated Beijing-Shanghai high-speed railway will begin operation next year, and is expected to cut travel time to four hours, railway officials said. The high-speed railway between China's two most important metropolises was scheduled to open in 2012 but will now open one year ahead of time, said Zheng Jian, chief planner with the Ministry of Railways. Wang Zhiguo, vice-minister of railways, said that it would be a four-hour journey from Beijing to Shanghai, and only three hours from Beijing to Nanjing, capital of East China's Jiangsu province. At present, it takes about 10 hours to travel from Beijing to Shanghai and Nanjing by train. A new-generation bullet train that will travel up to 380 kilometers per



hour (kph) is now under development for the high-speed rail link [...] Vice-Minister Wang Zhiguo said it was expected that high-speed trains would one day take passengers from Beijing to most capital cities within eight hours, except for Haikou, Urumqi, Lhasa and Taipei. It is expected that an 110,000-km railway network will be completed by 2012, including 13,000 km of high-speed rail, he said. China already has 6,552 km of rail track in operation - the longest amount of high-speed rail track in the world. The ministry wants to export China's high-speed railway technology to North America, Europe and Latin America [...].

<http://english.peopledaily.com.cn/90001/90776/90882/6919381.html>

4. **China Science and Technology Museum Exhibition to be on Nation-wide Tour**

(Guangming Daily, 15-03-2010)

Organized by China Science and Technology Museum, the first China Science and Technology Museum Exhibition nation-wide tour is about to start.

The first four exhibitions that are selected for the tour include New Development of Technology Changes Life organized by Shanghai Science and Technology Museum, People and Health organized by Guangdong Science and Technology Center, The South Pole organized by Heilongjiang Science and Technology Museum and Fun Math organized by Tianjin Science and Technology Museum.

These four exhibitions will go on tours respectively in Ningxia, Xinjiang, Hebei and Shanxi. The second round of exhibition tour is to start in May. The goal is to have at least 8 legs for every exhibition that goes on nationwide tour and bring more exhibition to remote areas in China.

5. **New Drug Certificate for Anti-H1N1 Flu Medicine Zanamivir Granted to SIMM**

(CAS, 17-03-10)

The global explosion of the Highly Pathogenic Avian Influenza in 2005, the highest priority has been given to the development of anti-bird-flu drugs in order to prevent and cure substantial epidemic diseases and to protect the national economic security and social stability in China. The year of 2009 witnessed the attack by H1N1 Flu, for which there is a high possibility of virus variation. Therefore the R&D as well as the reserves of effective anti-flu drugs becomes extremely crucial.

In order to meet this exigent demand of the country, SIMM (Shanghai Institute of Materia Medica) has been working closely with Nanjing Simcere Dongyuan Pharmaceutical Ltd. and Nanjing Yifang Pharmaceutical R&D Center Ltd. since 2005 and effectively developed the Zanamivir API under strong supports of MOST and CAS grants. The API got also the authorization from GSK; a new type of formulation "Inhalant Zanamivir Capsule" was further developed. With the clinical trial approval from the State Food and Drug Administration (SFDA) in October 2008, the new drug certificate and production certificate were finally granted for Zanamivir API on February 10th, 2010.

Zanamivir, approved by U.S. FDA and the EMEA in 1999, has been applied for the prevention and treatment on Flu infections. This drug was widely used and took very good effect on the flu explosion in Europe at the end of 1999. SIMM has successfully accomplished the Oseltamivir and Zanamivir production and formulation, respectively, which has enriched and enhanced the strategic reserves of anti-flu medicine in China.

6. **MoE Established Guiding Committee to Promote Secondary Vocational Education**

(MoE, 18-03-2010)

The National Secondary Vocational Education Reform Innovation Guiding Committee is established in Beijing on March 18, 2010. Working as an expert committee that provides research, consulting, guidance, services and quality evaluation to Chinese secondary vocational education, the Committee consists of



relevant departments within State Council, Industry Associations, and representatives from large corporations as well as experts from vocational education institutions, research institutions. The goal of the Guiding Committee aims at mobilizing government, industry associations and enterprises to provide macro guiding to the development of secondary vocational education. The main task of Committee is to assist Ministry of Education to implement Secondary Vocational Education Reform and Innovation Implementation Plan (2010-2012), implement regional industry-oriented reform testing, implement innovation on current teaching material, etc. According to Ministry of Education, the Committee will become an important intelligent tank in the reform of secondary vocational education institutions.

7. **Freak Weather Prompts Study on Climate Change**

(SCMP, 23-03-2010)

The spectre of abrupt climate change, which could render massive infrastructure projects such as the Three Gorges Dam and the South-North Water Diversion Project useless, has prompted the central government to launch a national scientific study. Some mainland scientists are warning that annual temperatures could drop sharply in the next two decades, causing a drastic shift in rain distribution and hitting the agricultural sector hard. Like their peers around the world, the mainland's scientific community long regarded the possibility of abrupt climate change as minimal, and funding for research into its ramifications was non-existent [...] But today, with snowstorms raging across northern China, unprecedented drought in the south and the IPCC's credibility coming under serious attack, some mainstream scientists are not so sure any more. They admitted that they could not rule out the possibility that China, as well as the rest of the world, is caught up in the process of an abrupt climate change. In 2003, the Global Business Network, a US think tank, prepared a report for the US Department of Defence titled "An Abrupt Climate Change Scenario and Its Implications for United States' National Security". The report created a climate change scenario based on interviews with leading scientists, and historical data, which estimated that global warming would stop abruptly in 2010 and long cold winters would follow. "Mega-droughts begin in key regions in southern China ... around 2010 and last throughout the full decade," the report says. "China, with its high need for food supply given its vast population, is hit hard by a decreased reliability of the monsoon rains ... longer, colder winters and hotter summers caused by decreased evaporative cooling because of reduced precipitation stress, already tight energy and water supplies. Widespread famine causes chaos and internal struggles as a cold and hungry China peers jealously across the Russian and western borders at energy resources." The report was covered by some mainland newspapers at the time but was met with derision from scientists [...] Mainstream scientists firmly believed that global warming was irreversible and that climate change would be a slow and gradual process. But it now seems the futurists could have been right. Since September, areas of southwestern China such as Yunnan, Guizhou, Guangxi and Chongqing have been hit by the worst drought in more than a century. Xinhua says rainfall is down by as much as 90 per cent and water levels in major rivers are at their lowest in history. Nearly 20 million people are suffering from drinking water shortages. Meanwhile, enormous snowstorms, not seen in decades, have hit northern China. Some dams along the Yellow River, which have not flooded for many years, are reporting dangerous water levels. These happenings match almost perfectly with the 2003 report's prediction that China's normally wet south would see droughts and the normally dry north would experience floods. Now the question is, will it last for a decade? The Ministry of Science and Technology launched an emergency national science project last month to deal with the issue [...].



Events (April– May 2010)

April 2010

AIMUN Model UN 2010

Date: April 1st- 4th
Place: Peking University
Contact: zhaoyechao.mun@gmail.com

China Pharmaceutical R&D summit

Date: April 5
Place: Shanghai
Contact:
<http://www.ibclifesciences.com/china/overview.xml>

2010 China (Shanghai) Int'l Survey and Mapping Equi.&Tech. exhibition

Date: April 8th
Place: Shanghai
Contact: zhouyy@1525.sh.cn

China Energy Generation Industry Exhibition

Date: April 21-23
Place: Intex Shanghai, Shanghai
Organizer: MP Asia Pte Ltd.

The 17th China Int'l industry Fair

Date: April 22nd
Place: Chongqing
Organizers: Chinese Mechanical engineering Scai.

The 27th China Int'l Screen Printing and Digital Tech. Expo

Date: April 27th
Place: Shanghai
Contact: Printing Equi. Indu. Asso

The 5th China Int'l Exhibition on Police Equi.

Date: April
Place: Beijing
Contact: Ministry of Public Security

May 2010

Int'l Solar Energy & PV Projects (Shanghai) Exhibition, SNEC Int'l Solar and PC Conference

Date: May 5th
Place: Shanghai
Contact: Shanghai S&T Development & Exchange Centre

2010 China (Beijing) Int'l Mining & Hosting Handling Machinery Exhibition

Date: May 10th
Place: Beijing
Contact: Chinese Mechanical Engineering Soci.

XIV Int'l Conference on Calorimetry in High Energy Physics

Date: May 10th
Place: Beijing
Contact: CAS

The 2010 Int'l Symposium on Financial Info. Processing

Date: May 18th
Place: Beijing
Contact: 010-68597749

2010 China Int'l Automobile Science and Tech. Exhibition

Date: May 21st
Place: Wuhan
Contact: China National Scientific Instruments & Material Import/Export Corp.

2010 (Guangzhou) Exhibition and Conference on Instrumental Analysis and Biotechnology

Date: May 24th
Place: Guangzhou
Contact: Guangdong Foreign S&T Exchange Centre



The 15th China Int'l Welding & Cutting Fair

Date: May 27th

Place: Beijing

Contact: Chinese Mechanical Engineering
Soci.

**2010 China Int'l Gas Tech. Equi.
Exhibition**

Date: May

Place: Beijing

Contact: China Gas Association

**The 4th China (Beijing) Int'l Exhibition and
Symposium on Police and Anti Terrorism
Tech. and Equi.**

Date: May

Place: Beijing

Contact: China Asso. For Sci. and Tech.
Beijing Municipal Public Security
Bureau

**The 3rd Int'l Conference on
Computational Sciences and
Optimization**

Date: May 28th

Place: Beijing

Contact: Academy of Mathematics and
Systems Sci., CAS

**SKLRB: Symposia: Frontiers
in Perimplantation Biology**

Date: May

Place: Beijing

Contact: Inst. of Zoology. CAS