



the global network of science academies

IAP – the global network of science academies

Science Education Programme (SEP) 2014 Biennial International Conference

28-30 October 2014, Beijing, China

Beijing Declaration on Science Education and Science Literacy

The IAP SEP 2014 Biennial International Conference was held in Beijing on 28-30 October 2014, hosted by the Commission on Education for Children of the China Association for Science and Technology (CAST), the China National Commission for UNESCO, the Children and Youth Science Centre (CYSC) of CAST, and the Chinese Academy of Sciences. The International Conference attracted more than 130 speakers and participants from 19 countries.

Under the main theme ‘Challenges and Opportunities of Inquiry Based Science Education (IBSE)/ Science, Technology, Engineering and Mathematics (STEM) Education’, sessions were devoted to ‘IBSE and Technology Education’, ‘Student Outcomes Assessment’, ‘IBSE and National Development’ and ‘Science Outreach and Society’. These four sessions engendered animated and constructive deliberation, culminating in the recommendations and outcomes in this Beijing Declaration. The Beijing Declaration was adopted by the IAP SEP Global Council in its meeting on 30 October in Beijing.

This Beijing Declaration reaffirms that, after nearly 25 years of experience throughout the world, it has been proven that IBSE/STEM education – from preschool upwards – enhances the curiosity and creativity of children, and improves their language and numerical literacy. Moreover, IBSE/STEM education enables children and young people to think critically and to question certain cultural, social and consumption fashions unless they have been proven by evidence to be beneficial. In addition, IBSE/STEM education not only assures the human resources necessary for the green and clean scientific, engineering and technology devices and systems needed to combat the challenges of global poverty and global climate change, but also provides the world with a rational and discerning citizenry that should help ensure global peace and security.

Therefore the Beijing Declaration now:

- Calls on all IAP member academies of science to redouble their commitment to IBSE/STEM education, including reaching out to their national ministries of education, their national UNESCO commissions and their national missions in UNESCO.
- Calls on industry to assist national academies of science and their national governments to enhance IBSE/STEM education policies and initiatives to ensure the formation of the creative and innovative human capital that will enable their own enterprises to remain competitive in the increasingly fast-paced science and technology-based development environment.
- Calls on foundations, charities and donors to sponsor the roll-out of IBSE/STEM practices, especially in developing countries.
- Calls on China, the host nation of the Beijing Conference, and other nations with rich experience in IBSE/STEM and science outreach activities to share their experiences with the world and to assist in capacity building efforts in other countries, especially developing countries, wishing to

implement IBSE/STEM.

- Calls on the United Nations Educational, Scientific and Cultural Organization (UNESCO) to include IBSE/STEM in the programme of the UNESCO World Education Forum in Incheon, Korea, in May 2015, and to incorporate IBSE/STEM for quality education and lifelong learning into the United Nations post-2015 development agenda. ■

国际科学院组织 (IAP) ——全球科学院网络组织
科学教育项目 (SEP) 2014 年国际研讨会
2014 年 10 月 28—30 日, 中国, 北京

科学教育与科学素养北京宣言

国际科学院组织科学教育项目 2014 年国际研讨会于 2014 年 10 月 28—30 日在北京召开。会议由中国科协青少年科学教育专门委员会、中国联合国教科文组织全国委员会、中国科协青少年科技中心和中国科学院联合主办。本次国际研讨会吸引了来自 19 个国家的 130 多位主讲者和代表。

会议的主题为“探究式科学教育 (IBSE) / 科学、技术、工程和数学 (STEM) 的机遇与挑战”, 就探究式科学教育与技术教育、学生学习成果评测、探究式科学教育与国家发展、科学普及与社会等 4 个议题分别进行研讨。这些议题引发了与会者热烈和富有建设性的讨论, 最终凝聚成北京宣言中的提议和成果。本宣言在 10 月 30 日国际科学院组织科学教育项目全球理事会召开的会议上获得通过。

北京宣言重申, 全世界各国近 25 年来取得的经验证明, 始于学前阶段的 IBSE / STEM 教育增强儿童的好奇心和创造力, 促进了他们的语言和数字认知能力。不仅如此, IBSE / STEM 教育培养儿童和青少年的批判性思维, 让他们具备在用证据证实某种文化、社会和消费模式的益处之前保留质疑的能力。除此之外, IBSE / STEM 教育不仅保障了构建绿色、清洁的科学、工程和技术设施和体系所必要的人力资源, 以应对全球贫困和全球气候变化问题, 而且为全世界培养理性和有洞察力的公民, 为确保世界和平与安全助力。

因此, 北京宣言提出:

- 呼吁国际科学院组织的全体成员加倍努力, 实现他们在 IBSE / STEM 教育方面的承诺, 并将其影响延伸至所在国家的教育部、联合国教科文组织全国委员会及该国在联合国教科文组织内的各项任务中。

- 呼吁各产业部门协助各国科学院和各国政府加大 IBSE / STEM 教育政策和相关行动的力度, 建设富有创造力和创新精神的人力资源, 以保障企业在日益快速进步的基于科学技术的发展环境中保持竞争力。

- 呼吁各类基金会、慈善机构和捐资人踊跃提供资助, 特别是在发展中国家支持开展 IBSE / STEM 实践。

- 呼吁本次北京研讨会的东道国中国, 以及在 IBSE / STEM 教育和科学普及活动方面具有丰富经验的其他国家在全球范围内分享经验, 并协助其他国家, 特别是希望实施 IBSE / STEM 的发展中国家努力加强能力建设。

- 呼吁联合国教科文组织将 IBSE / STEM 纳入将于 2015 年 5 月在韩国仁川召开的联合国教科文组织世界教育论坛的议题中, 并将“为实现高质量教育和终身学习而实施 IBSE / STEM 教育”列入联合国 2015 年后发展议程。

(朱方 翻译) ■