

# ESD in China: A Brief Review of the Recent Progress and Suggestions for the Future Work

Wang Qiaoling, Shi Gendong

Chinese National Working Committee for UNESCO on ESD, Beijing Academy of Educational Sciences, Beijing, China

**Email address:**

wangqiaoling2003@163.com (Wang Qiaoling), shigendong@sina.com (Shi Gendong)

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**Abstracts:** This paper is a part of the preparations work made by Chinese National Working Committee for UNESCO on ESD to welcome and participate in the world ESD Conference (2021) to be held in Berlin. The purpose of this study is to review China's experience in implementing GAPESD, and to put forward suggestions to the international community to continue to promote ESD in the next 10 years. In the process of summing up the experience of GAP implementation in the first five years, the expert group has conducted an investigation in more than 300 ESD experimental school principals in Beijing, Shanghai, Guangdong, Inner Mongolia and other regions. In writing the relevant suggestions, we have listened to the opinions of more than 10 experts from universities and research departments. Since 2015, the expert team of Chinese National Working Committee for UNESCO on ESD and a large number of principals, teachers, education experts, social personages and administrative leaders at all levels all over the country have completed 10 main tasks of theoretical research and practical exploration for the implementation of UNESCO Global Action Programme (GAP) on ESD. According to the guidance of Chinese government on promoting sustainable development and ecological civilization construction, and the important spirit of the document *Education for Sustainable Development: Towards achieving the SDGs (2020-2030)* issued by UNESCO, the expert team summarized achievements of promoting ESD in China in the past five years and made suggestions for international community to scale up ESD in the next 10 years.

**Keywords:** ESD, Education for Ecological Civilization, Sustainable Development

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## 1. Introduction

During the last five years (2015-2019), China has made remarkable progress in the field of Education for Sustainable Development (ESD), and Chinese National Working Committee for UNESCO on ESD (CNWCESD), as the official designated lead agency for UNESCO to promote ESD, has played a major role, alone with a lot of principals, teachers, educational experts, social personages and administrative leaders at all levels throughout the country, in achieving the progress. They carry out various theoretical research and practical exploration for the implementation of *UNESCO Global Action Programme on ESD (GAP)* [1]. This article is intended to give a profile of China's ESD progress in the past five years and suggestions for advancing ESD in the next 10 years.

## 2. Review of Last Five Years ESD in China

### 2.1. Ten Main Initiatives to Promote ESD in China

In retrospect, under CNWCESD's leadership, China's ESD practitioners have accomplished the following 10 tasks in the past five years.

(1) Studying and disseminating the ESD-related documents delivered by United Nations, UNESCO and the Chinese government

Since 2015, CNWCESD has organized the principals and teachers of some provinces and cities to translate, study, and disseminate a series of major relevant documents, such as *UNESCO GAP*, *Education for Sustainable Development Goals: Learning Objectives*, and *Problems and Challenges of Education for Sustainable Development*, as well as the

important Chinese government's reports on the implementation of the development strategy and the construction of ecological civilization [1-17]. CNWCESD held three national Workshops on ESD, two Beijing International Forums on ESD and four Asia-Pacific Expert Meetings on ESD, as well as a lot of theoretical discussions and exchanges of research results with hundreds of experts, principals and teachers at home and abroad, promoting widely the ideas and concepts of education for ecological civilization and sustainable development.

(2) Conducting localized research and publishing a number of research results on ecological civilization and ESD

Over the past five years, CNWCESD has been focusing on the theoretical and practical innovation of education for ecological civilization and sustainable development in the light of the situation of national education reform and innovation development. Especially, the following important theoretical and practical issues have been studied: the new need for educational reform and innovation in the era of ecological civilization, the relationship between sustainable development and education, the composition and cultivation of sustainable development literacy, the promotion of quality education by ESD, the construction of ESD curriculum, the construction of ESD experimental districts and experimental schools, etc. The total number of words in the papers & books is over 2 million.

(3) Advising the government to promote the integration of ESD into the national public education policy

Before 2015, CNWCESD had submitted four reports on ESD research to the leadership of the State Council, the Beijing Municipal Education Commission and the Ministry of Education. It timely put forward the suggestions to the Ministry of Education to write ESD in *The 13th Five-year Plan for National Education Development (2016-2020)*: "Develop ESD extensively; deepen the education for water-saving, electricity-saving and food-saving, guide students to practice economy and combat waste; and establish the consciousness of civilization for respecting nature, conforming to nature and protecting nature, the concepts of sustainable development, knowledge and capabilities, the practice of thrifty, green, low-carbon, civilized and healthy lifestyle, leading the social green fashion" [15]. Over the past five years, this deployment has had a good impact on expanding the number of ESD experimental schools and promoting young people's participation in the construction of green society in many provinces and municipalities.

(4) Promoting the research on curriculum, teaching & learning innovation and fostering a new batch of ESD experimental schools and districts to advance quality education

From very beginning, China has been paying attention to developing ESD projects with Chinese characteristics, especially in aspects of building local ESD curriculum and ESD experimental schools & districts [18-20]. Over the past five years, CNWCESD has been working hand in hand with the partners of various regions, focusing on ESD-oriented curriculum, teaching and learning innovation, investigation,

guidance, thematic training, quality diagnosis and experience demonstration in over 500 ESD experimental schools. In Beijing, Shanghai, Guangdong, Inner Mongolia and other provinces, municipalities and autonomous regions, have set 200 excellent cases of principals and teachers pursuing ESD to promote quality education, commending and disseminating the successful experience of 100 ESD demonstration schools and 5 ESD demonstration districts, and carried out valuable innovative exploration for promoting the connotation development of school education through subject research [21].

(5) Carrying out various activities to help adolescents to practice sustainable lifestyles and participate in the construction of a green society

CNWCESD and the partners have guided many teachers in ESD experimental schools, directly facing primary and secondary school students to carry out practical activities of practicing sustainable lifestyle and participating in the construction of green society, and continued to carry out national activities of the collection, selection and commendation of youth's scientific and technological innovation for ESD and sustainable development learning [22]. Over the past five years, 700 outstanding innovative practices of adolescents have been commended in various media, which has had a good social impact.

(6) Improving ESD training system and effective ways for the principals and teachers at national and local levels

Over the past five years, CNWCESD and regional partners have continued to improve the national-local-school three-levels ESD training system: setting up three national workshops and two international forums, with a focus on disseminating the spirit of international and domestic important documents and theoretical research results, and editing *Asia-Pacific Educator Training Manual on ESD* [24] as well as a collection of more than 200 recent practice cases; about 20 district training seminars focusing on exchanging more cases and deploying local work; more than 300 school training seminars have been held, focusing on the study and determination of specific plans for curriculum, teaching and learning innovation in the new stage. Over the past five years, nearly 10,000 principals and teachers of experimental schools have been trained. Practice has proved that such a training system has become an effective driving force to continuously promote ESD in all regions.

(7) Establishing and expanding cooperative ESD alliances with stakeholders such as social organizations, museums and enterprises

Over the past five years, CNWCESD has worked with national or regional partners such as the Ministry of Environmental Protection, World Bank, DaAi Real Estate Group, Palace Museum, Zigen Rural Education Foundation and the Espace Education Group to build more than 10 cooperative ESD platforms for adolescents, in the form like practice parks, activity bases, training centers and research projects. Step by step, a cooperative and interactive working mechanism is being formed, and a cooperative action alliance to promote ecological civilization and ESD is being established and improved.

including

(8) Consolidating the platform for collecting, storing, exchanging and providing ESD information

From 2015, CNWCESD has cooperated with partners to bring out a large number of ESD-related publications through media such as magazines, websites and Wechat etc., including UN/UNESCO documents on ESD in about 1.1 million words.; hundreds interpretative articles, papers and cases on the study and implementation of these documents, written by international and domestic experts, principals and teachers; as well as 30 issues of journal *Education for Sustainable Development in China*, 15 issues of *Newsletter of APIESD*, 14 proceedings of international and domestic conferences on ESD, 10 case exhibitions of ESD experimental districts and schools, and over 200,000 words ESD messages through Weixin Public Number "ESD 2030". In the past five years, more than 50 official media have reported a series of practical research results about various ESD experimental schools, which has produced a positive impact in many aspects.

(9) Establishing a team with high accomplishment in ESD research, organization and guidance

After nearly five years of intensive theoretical study, profound ideological baptism, rigorous logical speculation, in-depth empirical research, intensive activities and frequent exchanges between China and foreign countries, CNWCESD has set up a professional, comprehensive and composite team of over 200 ESD experts, including 20 experts from this agency, and 20 experts from colleges, more than 50 experts from provincial and municipal educational and scientific research institutions, and nearly 100 experts from the principals and teachers of primary and secondary schools. These experts include not only professional researchers with senior and intermediate academic titles, but also managers and practitioners with rich practical experience. Due to the remarkable achievements in the research and practice of ESD promoting quality education, a lot of members in this team have been awarded by higher authorities, with their titles or positions promoted. For example, according to preliminary statistics, the ESD expert group at Beijing Academy of Educational Sciences has published more than 300 research papers and more than 10 books on ESD [21]. The total number of research results produced by this team ranks first among China's universities and institutes in the same field. Based on these outcomes, this agency is actively promoting the construction of ESD discipline system in the era of ecological civilization.

(10) Establishing a stable international expert network and a cooperative exchange platform for ESD

Starting from the first Beijing International Forum on ESD launched in 2003, CNWCESD has completed an important transformation from a single mode of domestic research to an open pattern combining domestic and international research. Since 2015, it has continued to hold two Beijing International Forums on ESD [25] and four Asia-Pacific Expert Meetings on ESD, with over 120 experts from various countries attending the meetings. At the same time, at the invitation of UNESCO and other relevant parties, more than 10 experts from this agency have gone aboard to participate in the international conferences

and carry out bilateral cooperation and exchanges in Asia, Europe, the United States, Australia and other countries. In recent years, it has formally become a member of UNESCO in implementing the third priority action area of GAP, increasingly participating in the discussion and decision-making process of a series of important ESD issues in the international community [20]. As UNESCO is about to open a new stage of ESD for SDGs (2020-2030) and ESD is becoming the mainstream of world education, the communication mechanism such as Asia-Pacific Expert Meeting on ESD with China as its core member, will continue to play an important role as the international ESD cooperation and exchange platform in promoting ESD training, research, and exchange.

## **2.2. The Successful Experience and Innovative Value Resulted from the Progress of ESD in China**

To sum up, the successful experience and innovative value reflected in the implementation of China's ESD in the past five years are as follows:

The top-level design of theoretical and practical research based on the need for the sustainable development of global society, economy, environment and culture as well as China's ecological civilization construction ensures the correct direction, forward-looking perspective and guiding value for ESD research initiatives.

With a key goal orientation for the cultivation of adolescents' sustainable development literacy and the theoretical system to meet the need for school education reform and innovation, these initiatives developed series of research conclusions focusing on the roadmap of ESD, adolescents' sustainable development literacy, E-STEAM curriculum, sustainable learning classrooms, sustainable development schools and ESD experimental districts. These research outcomes reached unprecedented heights in the field of educational theory and practice in China, and produced good demonstration effects [].

(3) Due to paying attention to eliminating the drawbacks of "examination-oriented education" and adapting to the needs of the sustainable development of society and human beings, the ESD expert team provided the principals and teachers with ESD-dominated schemes for talent training, which produced a large-scale good effect of ESD promoting quality education in schools.

(4) Due to the emphasis on the careful design of and full participation in the research on the Whole-Institution Approach (WIA) of ESD, including the subjects such as scientific school-running ideas, innovative curriculum, sustainable learning classes, the practice of sustainable lifestyle, and the construction of green society, the ESD expert team has taken the lead in completing the transition of ESD from abstract concept to a large-scale school practice.

(5) Due to the emphasis on the establishment of cooperative education space for ESD involving schools, governments, society and enterprises, the ESD expert team gathered various stakeholders and social forces to cultivate a new generation of citizens with sustainable development literacy, and made

active explorations for the theoretical and practical innovation of lifelong learning system.

(6) Due to the emphasis on the interrelation and connection between the development trend of international education and the innovation process of domestic education reform, the ESD expert team has enriched the understanding and practice of ESD by using the relevant research results and successful experience of the United Nations & other countries for reference, and contributed Chinese wisdom to global ESD with distinctive theoretical research conclusions and outstanding cases, which reflects its spirit of international responsibility.

### 3. Suggestions for Promoting ESD in the Next 10 Years

With a comprehensive study of Chinese government's discourse on promoting sustainable development strategy and the construction of ecological civilization, as well as the important spirit of the document *Education for Sustainable Development: Towards achieving the SDGs (ESD for 2030)* [10, 11] formulated by UNESCO 2018 Costa Rica, Bangkok and other important conferences, and a summary of the last five years of promoting ESD in China, CNWCESD and its ESD expert team propose the following suggestions for international community to pursue ESD in the next 10 years:

(1) Strengthening the theoretical research on ecological civilization and ESD

Ecological Civilization is the comprehensive embodiment of material and cultural progress made by human beings in the process of realizing harmonious development of human beings, nature and society. The essential foundation of a society with ecological civilization is sustainable development. Today, most countries are approaching the stage of transformation from industrial civilization to ecological civilization. In the post-pandemic era full of instability and uncertainty, we should help every learner to realize that the theory of sustainable development and ecological civilization is an ideological weapon to deal with many severe challenges such as climate warming, pandemic and economic recession. With the advancement of national sustainable strategy processes, elements of ecological civilization in the societies of all countries will certainly be promoted to increase, and then the transformation from industrial civilization to the era of ecological civilization will be accelerated to be realized. As many countries face the challenges of a changing planet, not only nations but each individual citizen will understand that aiming at sustainable development is vital for the future of all. Education systems in every country are facing a new topic: how to help all citizens in all forms and levels of education to comprehend and meaningfully engage in sustainable development, thus creating this good ecological civilization society. In this regard, the research reports, such as *Education for Sustainable Development Goals: Learning Objectives* [9] and *Issues and trends in Education for Sustainable Development* [10], and *UN Secretary-General Releases 2020*

*SDG Progress Report* published by UNESCO in 2017-2018 have important reference value.

(2) Paying attention to the policy orientation and guarantee mechanism of ESD

It is necessary to strengthen the leadership responsibilities of governments at all levels. It is expected to set up an inter-departmental specialized coordination and guidance institution for Education for Eco-Civilization & Sustainable Development (EECSD), and also to allocate the necessary resources.

It is necessary to strengthen the responsibilities of universities and research institutions, not only to students and academics but also to their respective communities. Comprehensive colleges and universities should strengthen ESD-focused curriculum design and compile textbooks and study books; normal colleges and local colleges should bear the responsibility of the professional training and guidance for surrounding primary and secondary schools, communities and enterprises.

It is also necessary to raise sustainability literacy in the wider community as a means to a sustainable community through formal, informal and conformal education. In this process, environmental NGOs have a central role to play.

It is suggested that the successful experience of some countries is worth sharing widely. In China, Chinese National Working Committee for UNESCO on ESD (CNWCESD) undertakes the liaison, coordination and guidance of ESD in 11 provinces and municipalities, and promotes ESD in more than 1,000 experimental schools through the annual national training course system. In the past two years, Japan has established a high-level organizational mechanism of ESD jointly promoted by the Ministry of Culture and the Ministry of Environmental Protection, and mobilized universities to play a professional guiding role in ESD development in surrounding primary and secondary schools, enterprises and communities.

(3) Organizing experts to study and compile the syllabus of teaching guidance for schools to pursue ESD

*Education for Sustainable Development Goals: Learning Objectives: Learning Objectives* [9], issued by UNESCO at the Ottawa conference 2017, defines the specific learning goals for primary and secondary schools and other types of education for the explicit implementation of the 17 goals of *The 2030 Agenda for Sustainable Development* [2], including cognitive goals, emotional attitudes and values goals, and behavioral goals. Herewith, some countries began to develop their specific curricula programs that are suitable for their circumstances, and integrate the concepts of ESD, ecological civilization, and teenagers' literacy of sustainable development into practice.

On this basis, the educational administration departments should formulate local implementation plans according to each country's curriculum documents on promoting ecological civilization and sustainable development. The government departments should set up the team of experts who are jointly involved in education, science and technology, environmental protection, resource conservation and other

fields, and set up regional goals corresponding to the 17 goals of *2030 Agenda for Sustainable Development* [2] and *UN Secretary-General Releases 2020 SDG Progress Report*, as well as a series of goals in local ecological civilization and sustainable development. It is necessary to integrate and subdivide the 17 SD goals respectively into cognitive goals, emotional and values goals, behavioral goals, and to make specific design of a series of learning and practical activities. At the same time, suggestions should be made to schools at all levels about innovative teaching and learning methods, cooperative utilization and construction of social practice bases for ESD.

(4) Promoting the innovation of ESD curriculum and teaching-learning extensively

According to the experience from the United States and China, the administrative departments of urban education and the research departments of education and teaching should actively carry out the experimental research of E-STEAM course by setting up research groups, building experimental schools and holding on-site meetings. The E-STEAM course is a comprehensive curriculum paradigm that highlights the concept of ESD (E) as a leading concept that parallels the multidisciplinary teaching functions of science, technology, engineering, art and humanities, and mathematics (STEAM). The main curriculum resources of E-STEAM are from 17 SDGs including 169 targets in *2030 Agenda for Sustainable Development* and the practical sustainable development issues in social, economic, environmental and cultural fields in developing ecological civilization. The specific purpose of implementing E-STEAM courses is to improve students' academic knowledge and their literacy level for sustainable development. The main way to achieve the effect of the course is to complete the solution or research report of sustainable development issues by student groups or individuals. The main curriculum resources of E-STEAM are 17 sustainable development goals and 169 sub-goals of Agenda 2030 for Sustainable Development and the practical problems of social, economic, environmental and cultural sustainable development in the construction of ecological civilization. The specific purpose of implementing E-STEAM course is not only to improve students' academic knowledge, but also to improve their level of sustainable development literacy. The main way to achieve the effectiveness of the course is to complete the sustainable development problem solutions or special research reports by student groups or individuals [24]. In order to meet the needs of the post pandemic era, the Ministry of education and regional education administration, teaching and research departments of all countries should seriously plan and scientifically guide the students to carry out home-based autonomous learning, cooperative learning, parent guided learning and innovative learning, and summarize and disseminate successful experiences in a timely manner.

At the same time, it is necessary, on the basis of summing up the existing experience of urban primary and secondary schools, for us to vigorously study the Sustainable Learning Class and construct a kind of classrooms with features of teaching knowledge of sustainable development, multi-disciplinary

integration, multi-ability development, green sustainable lifestyle practice, innovative solutions for sustainable development, and data based on information technology. Through innovative teaching methods (such as project-based learning, research-based learning, etc.) to generate the innovative classes for sustainable development problem solutions and the data classes based on the cutting-edge technologies such as artificial intelligence, big data, and adapting learning. In this regard, a number of primary and secondary schools in Beijing, Shanghai and Guangdong have accumulated rich lessons and work experience, which deserve extensive attention and careful reference. To meet the needs of the reality and the future, on the basis of continuing to teach the original teaching contents, we should vigorously enrich and strengthen the new learning contents in the field of ecological civilization and sustainable development education with virus, fighting against epidemic situation, healthy lifestyle, medical and health system construction, community construction of human destiny as the core words. In this regard, a number of primary and secondary schools in some cities in Beijing, Shanghai, Guangdong and other regions have accumulated rich lesson and work experience, which is worthy of extensive attention and serious reference.

(5) Mobilizing youth teams and individuals to participate in the activities of green society construction

At present, as global climate change becomes more and more unoptimistic and the sustainable development process of urban and rural areas is facing severe challenges, it is necessary to mobilize the majority of young people to actively participate in the construction of a green society in the local urban and rural communities.

Under the situation of implementing the national strategy & deployment of sustainable development and ecological civilization as well as 17 sustainable development goals of the United Nations, in order to meet the urgent needs of the process of urban and rural sustainable development, it is suggested that adolescents should focus on the following learning and practice topics of sustainable development, including:

Topic 1. Practicing healthy lifestyle (including consciously practicing sustainable consumption, green travel, water saving, electricity saving and other green lifestyles in families, classes, schools and communities, and studying and formulating solutions);

Topic 2: Investigating the current situation of various resources and energy sources such as water and electricity, and developing the efficiency program of science and technology innovation and results application on clean energy;

Topic 3. Survey on earthquake, tsunami, flood and drought, haze and other issues, training on self-rescue, mutual rescue and mass prevention, and relevant proposals to deal with climate change.

Topic 4. Recommendations on investigation and solution for Urban Sustainable Development issues;

Topic 5. Surveys and solutions for rural poverty eradication, community-disabled residents or low-income families;

Topic 6. Protection and inheritance of excellent traditional culture in all regions of the world (especially the related countries and regions of "One belt and one road".);

Topic 7. Protecting various cultural & nature heritages in the world, and deepening students' understanding of "building a community of human destiny".

(6) Accelerating the construction of various sustainable development schools.

Schools are the important bases for implementing ESD in a large scale. According to the experience of many countries, it is an effective form to build multiple types of sustainable development schools. Referring to the experience of China, Japan, Germany and other countries, the quality standards for sustainable development schools are the following 8 items: establishing the concept of ESD in schools; designing the curriculum system with the main line of "learning sustainable development"; making sustainable learning classroom a normal classroom model; making green campus construction a local demonstration of energy conservation and emission reduction; the system of cooperation between teachers and students in anti epidemic and epidemic prevention and control should be established and effectively implemented; teachers and students generally practicing sustainable lifestyle; youth participating in the building a green society prevalently; teachers with the ability of bringing ESD into the classroom.

In the light of the experience of various countries and regions, it is suggested that the educational administrative departments should pay attention to the formulation of specific quality standards and Implementation Rules for sustainable development schools, and that the school leadership should pay attention to the top-level design of sustainable development schools from the perspective of building future schools.

It is suggested that attention should be paid to encouraging the construction of similar schools in various names: green schools, ecological civilization education schools, ecological schools, ASP schools, environmental education schools, etc. and to cooperating with all kinds of social organizations and enterprises related to interests and help build the school into a model center for local ecological civilization and sustainable development.

(7) Focusing on building a new batch of national ESD experimental or demonstration districts

China's experience in the past 20 years has proved that the construction of ESD experimental districts in large, medium and small cities is an important way to carry out ESD widely. The basic criteria of this ESD experimental district are as follows: 1) the local government formulates long-term plans and organizations for ESD; 2) more than one third of schools implement ESD; 3) ESD training for all principals and teachers is carried out; 4) the local education administration departments formulate ESD curriculum and teaching guidance documents, and organize their implementation; 5) the local primary and secondary school students take planned participation in pandemic prevention and control; 6) There are learning and practice bases for youth sustainable development in the region; 7) ESD can provide suggestions for the

sustainable development of local society, economy, environment and culture as well as the construction of ecological civilization.

Based on the experience accumulated in China, it is suggested that government departments at all levels should focus on the following aspects: inviting experts from various fields to participate in the study and formulation of the construction plan of the ESD experimental district; establishing and improving the local ESD experimental guidance group; carrying out frequent exchanges of experience between schools and inviting experts to guide the experimental work; and paying attention to setting up an extensive alliance of ESD, which combines a variety of institutions, organizations, teams and individuals in formal, informal and non-formal education, for working together to pursue ecological civilization and sustainable development through green education, ecological education, environmental education, and ESD. In the face of the severe challenges in the post pandemic era, every learner should consciously enhance his basic physical fitness, improve his immune ability and anti-virus ability, develop good personal health care habits, cultivate sustainable survival skills and sustainable lifestyle, and ensure that he and every member of human society have good physical and mental health quality and more comprehensive ecology Civilization and sustainable development literacy. Only when everyone becomes aware, acts and grows up can the goal of national learning be realized and a new world full of harmony, health, peace, fraternity, tolerance and unity can be built.

## 4. Conclusion

This work displays an overview of the recent progress of ESD in China through listing 10 effective initiatives conducted by the lead agency CNWCESD and provides the suggestions for advancing ESD in the next 10 years. Although it is based on China's situation, it as reference may be helpful for global ESD practitioners.

UN *2030 Agenda for Sustainable Development* and its 17 sustainable development goals have provided an ambitious blueprint for social and economic change and progress in the next 10 years [2]. To achieve this blueprint, it is necessary for everyone to consider and learn how to promote sustainable development and build an ecological civilization society. This is an all new huge challenge to our times to construct a learning society. In view of this, moving in the direction of achieving sustainable development and building ecological civilization, it is suggested to integrate 17 sustainable development goals and various key points of national ecological civilization construction into all kinds of education curricula at all levels; and to update the design the content system of learning-oriented society and the teaching-learning mode system as a whole, and implement them in teaching and learning practice at all levels. These ways are becoming standard options for building the lifelong learning system in urban and rural areas, as well as the primary criterion for evaluating the quality of lifelong learning system construction



in various countries and regions.  
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## Biography



**Wang Qiaoling**, Secretary General of Chinese National Working Committee for UNESCO on ESD, Deputy Director of the Institute of Lifelong Learning and ESD, Beijing Academy of Educational Sciences.



**Shi Gendong**, Research Fellow of Beijing Academy of Educational Sciences, Executive Director of Chinese National Working Committee for UNESCO on ESD, Director of Asia-Pacific Institute of Education Sustainable Development.