



世界数字教育联盟
WORLD DIGITAL EDUCATION
ALLIANCE

Newsletter

2023

WORLD DIGITAL EDUCATION CONFERENCE **DIGITAL TRANSFORMATION AND FUTURE OF EDUCATION**



2023.2.13-2.14

Foreword

The 2023 World Digital Education Conference was held in Beijing, China, from 13-14 February 2023, co-hosted by the Ministry of Education of the People's Republic of China and the Chinese National Commission for UNESCO.

Background

A new round of scientific and technological revolution and industrial transformation is accelerating in today's world. Driven by innovation and technological development, digital transformation is reshaping society, the labor market and the future of work. Education has become an important player in this process. The growth of connectivity, the widespread use of devices and digital applications, as well as the growing demand for digital skills are all pushing forward digital transformation in education.

At the same time, the COVID-19 pandemic has brought huge challenges to global education. Since 2020, some 147 million students have been deprived of more than half of their face-to-face instruction, and more than 90 percent of children have been facing learning difficulties in the whole world. In 2021, 244 million children and young people were out of school. The pandemic has triggered an unprecedented level of urgency for mass online learning, accelerating the process of digital transformation in education.

The just-concluded UN Transforming Education Summit identified quality digital learning as one of the five priority areas for action. Most participating countries included digital learning as a key content in their National Statements of Commitment. China stated in the National Statement that we will further implement the National Strategic Action for Education Digitalization, enrich the supply of digital educational resources, build an extensive and open learning environment, and expedite resources sharing among learning platforms of different types and at different levels, advance the integration of new

technology and education and learning, to accelerate the digital transformation of education.

In this context, World Digital Education Conference was successfully held in Beijing, China on 13-14 February 2023, co-hosted by the Ministry of Education of the People's Republic of China and the Chinese National Commission for UNESCO.

Theme and Objectives

The conference aimed to work with governments, schools and universities, enterprises and other stakeholders, relevant international organizations and non-governmental organizations to jointly implement the outcomes of the UN Transforming Education Summit, discussed how to promote education recovery in the post pandemic era and equitable quality education through digital education transformation, and advanced the realization of the United Nations Sustainable Development Goals.

With the theme of "Digital Transformation and Future of Education", the conference focused on digital education transformation, development and application of digital learning resources, improvement of digital literacy of teachers and students, digital governance of education, and evaluation of digital education development in basic education, vocational education, higher education and other fields.

Participants

The conference was attended by around 800 participants from more than 130 countries and regions, including State leaders and education ministers, diplomatic envoys, heads and representatives of UN Agencies, heads and representatives of international organizations, universities and schools, and representatives of private sector digital and technology companies.

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Executive Summary

The World Digital Education Conference opened in Beijing on February 13th. With the theme of "Digital Transformation and Future of Education," the conference delved into in-depth exchanges and discussions on topics such as digital transformation, the development and application of digital learning resources, and the enhancement of digital literacy among teachers and students, while also announcing significant achievements. These efforts aim to propel new advancements in China's education digitization and contribute Chinese wisdom to global digital education.

Through this conference, the educational opportunities inspired by digitalization are exhilarating, while the educational challenges posed by reality have become even more prominent. There is an urgent need to strengthen dialogue and exchanges, deepen pragmatic cooperation, fully tap into the power of digital transformation, and jointly promote digital transformation in education to create a bright future for education.

Education: Tremendous Opportunities and Severe Challenges

Participants at the conference hailed from various countries, regions, and international organizations around the world. Despite

speaking different languages, they conveyed a unified message: global education is facing tremendous opportunities but also severe challenges.

Opportunities. Participants generally agreed that in today's world, digital transformation is reshaping society, the labor market, and future work forms. In this process, the importance of education is increasingly prominent. Meanwhile, with connectivity continuously enhanced and various devices and digital software widely used, the demand for digital skills is growing stronger, all of which continuously advance the digital transformation of education.

Challenges. Several participants pointed out that the digital divide in education risks widening. Mr. Jorge Valera, Ambassador of Venezuela to China, stated that the COVID-19 pandemic has posed severe challenges to education in developing countries. However, due to funding constraints, efforts to modernize digital infrastructure have not been smooth. Mr. Robert Jenkins, UNICEF's Director of Education and Adolescent Development, bluntly pointed out that globally, the vision of "technology-enabled education" was not fully realized during the pandemic. The lack of digital capabilities and children worldwide of learning opportunities, and digital education platforms in many countries have become ineffective due to a lack of maintenance.

Moreover, there are factors beyond technology at play. Mr. Pedro Perera, Ambassador of Cuba to China, stated that due to external factors, Cuba has been unable to obtain sufficient bandwidth and access a wider range of digital educational resources.

The focus areas of concern among participants highlight that the "severe challenges and learning crises facing global education" pointed out by the United Nations Transforming Education Summit are not alarmist. The combined impact of the pandemic and the rapid iteration of digital technologies has led to a widening gap in educational capabilities and learning abilities among different countries, regions, and groups. If this situation is allowed to persist, it will not bode well for the development and progress of all humanity.

It is precisely out of such concerns that participants have called on governments, international organizations, enterprises, and others to take effective measures to bridge the digital education divide. As stated by Huai Jinpeng, Chinese Minister of Education, in his keynote speech, "we must avoid digital technologies exacerbating educational inequality, thereby accelerating the realization of the vision of quality education for all worldwide."

Application: The Fundamental Driver of Educational Digitalization

The educational future woven by digitalization is captivating, yet many guests at the conference cautioned that "digital technology" and "better enhancing learning capabilities" cannot be equated simply.

Ms. Manuela V. Ferro, Regional Vice President for East Asia and Pacific of the World Bank, stated that it is important to recognize the current "potential and limitations of technology in the field of education." A report by the World Bank revealed that during the pandemic, even in countries with good internet infrastructure and device penetration, the loss in student learning efficiency was severe. Mr. Mathias Cormann, Secretary-General of the Organization for Economic Cooperation and Development, also pointed out that we must find ways to address the issue of "fragmented learning" and ensure that intelligent learning tools are suitable for everyone, not just a few.

The concerns expressed by participants indicate that, at this stage, the optimal form of digital empowerment in education is still being explored. The Call for Global Partnership on Digital Education Development, released at this conference, states: "Application is the most fundamental and powerful driving force for the digitalization of education. The deep integration

of digital technology and education has the great potential to build new educational ecology, new methods of teaching and learning, as well as new ways of educational governance." How to turn this potential into reality requires arduous efforts and relentless exploration.

However, a clear message conveyed at this conference is that as people delve deeper into the fog of exploration, they place more hope on teachers. "Teacher" has become a keyword frequently mentioned by participants, with views such as "Teachers remain the core of education" appearing repeatedly.

Mr. Mathias Cormann stated that teachers should play a central role in the process of educational digitization, and technology cannot replace teachers but can support them in "redefining themselves"; otherwise, any technology will be ineffective. Mr. Leonardo Garnier, Special Adviser for 2022 Transforming Education Summit, pointed out that we must enhance teachers' digital capabilities. "Teachers should become creative organizers in the digital age, fostering curiosity-based learning, guiding students to care for each other, and solving problems."

Lionel M. Ni, President of the Hong Kong University of Science and Technology (Guangzhou), believes that the functions and roles of teachers will be redefined. "Beyond traditional teaching and support teams, we also

need more professional knowledge management and planning teams to construct clear knowledge maps, structurally modularize knowledge systems, and design high-quality learning materials tailored to individual learning habits across different cities."

It seems that the phrase "teachers are the engineers of the human soul" will not be tarnished by the rapid development of artificial intelligence but will instead shine even more brightly.

Collaboration: Enabling More Countries and Peoples to Board the Express Train of the Digital Age

In the conference venue, the words "openness," "collaboration," "sharing," and "unity" were frequently mentioned.

On a global scale, the importance of these high-frequency terms is increasingly significant for digital education.

Eliminating digital barriers, narrowing the digital divide, enhancing resilience in education in response to crises, exploring planning, standards, monitoring, and evaluation mechanisms for digital education, conducting intellectual property protection, data security management, digital ethics risk prevention, and privacy protection—these challenges encountered in digital education practices

require the international community to prioritize human well-being and work together to address them.

China has consistently advocated for countries to work together to promote integrity and innovation, aiming to make the benefits of digital education more widely accessible to people of all countries, conveying deep attention and expectations for promoting high-quality development of digital education and facilitating comprehensive human development and social progress.

The World Digital Education Conference called on the international community to enhance dialogue and deepen practical cooperation. The Call for Global Partnership on Digital Education Development clearly states that international cooperation is a key driver for promoting global education reform, especially digital transformation.

Huai Jinpeng's powerful words in his keynote speech conveyed: "We should work together, strengthen communication, and leverage open collaboration in digital education to enable more countries and peoples to board the express train of the digital age, share the development achievements of digital education, and accelerate the process of education reform."

Mr. Leonardo Garnier stated: "We must ensure that digital resources serve as global public resources, promote cross-cultural exchanges of

digital resources, and guarantee their status as global public goods."

Mr. Robert Jenkins called for the establishment of international norms and standards to ensure that every child, regardless of their identity or location, has access to equitable educational opportunities.

The *Initiative of Establishing World Digital Education Alliance* released at the conference embodies the concept of a community with a shared future for mankind, emphasizing cooperation and mutual benefit, including "promoting common policies and innovative strategies at national, regional, and school levels to achieve UN Sustainable Development Goal 4 by 2030" and "working with members of the World Digital Education Alliance to build public platforms, provide public products and services, and share open educational resources and technical solutions."

Mr. Pedro Perera noted with a hint of sadness: "The equity and accessibility of education are still a dream for many."

At the World Digital Education Conference held in Beijing, a consensus is gradually forming.

Digital technology brings a ray of hope for this dream. As a whole, humanity should possess sufficient wisdom to transcend various constraints and enter a realm of freedom where digital technology serves our purposes.

Highlights from WDEC2023



Theme and Objectives

The conference aimed to work with governments, schools and universities, enterprises and other stakeholders, relevant international organizations and non-governmental organizations to jointly implement the outcomes of the UN Transforming Education Summit, discussed how to promote education recovery in the post pandemic era and equitable quality education through digital education transformation, and advanced the realization of the United Nations Sustainable Development Goals.

With the theme of "Digital Transformation and Future of Education", the conference focused on digital education transformation, development and application of digital learning resources, improvement of digital literacy of teachers and students, digital governance of education, and evaluation of digital education development in basic education, vocational education, higher education and other fields.

2023 World Digital Education Conference opens in Beijing



The World Digital Education Conference was held on Feb 13 and 14 in Beijing. Themed "Digital Transformation and Future of Education", the two-day event co-hosted by the Ministry of Education of the People's Republic of China, the Chinese National Commission for UNESCO, aims at boosting new progress in the digital development of education and injecting new impetus into the development of digital education around the globe. The opening ceremony and plenary session was held on Feb 13, followed by four parallel sessions on Feb 14, with the focus on basic education, vocational education, higher education and evaluation of smart education development.

Chinese Vice Premier Sun Chunlan, UNESCO Director-General Ms. Audrey Azoulay, attended the opening ceremony and delivered speeches. Education Minister Huai Jinpeng gave a keynote speech entitled "Deepening Digital Transformation, Building A Bright Future of Education" at the plenary meeting.

Chinese Vice Premier Sun Chunlan made the remarks. Noting that modern information technology has a revolutionary impact on the development of education, Sun said the Chinese government attaches great importance to the development of digital education, and that through continuous efforts,

290 million students in schools across China now have access to high-quality education. China is willing to deepen international cooperation in digital education and strengthen the alignment of education policies and standards so as to make the fruits of digital education benefit more people of all countries.

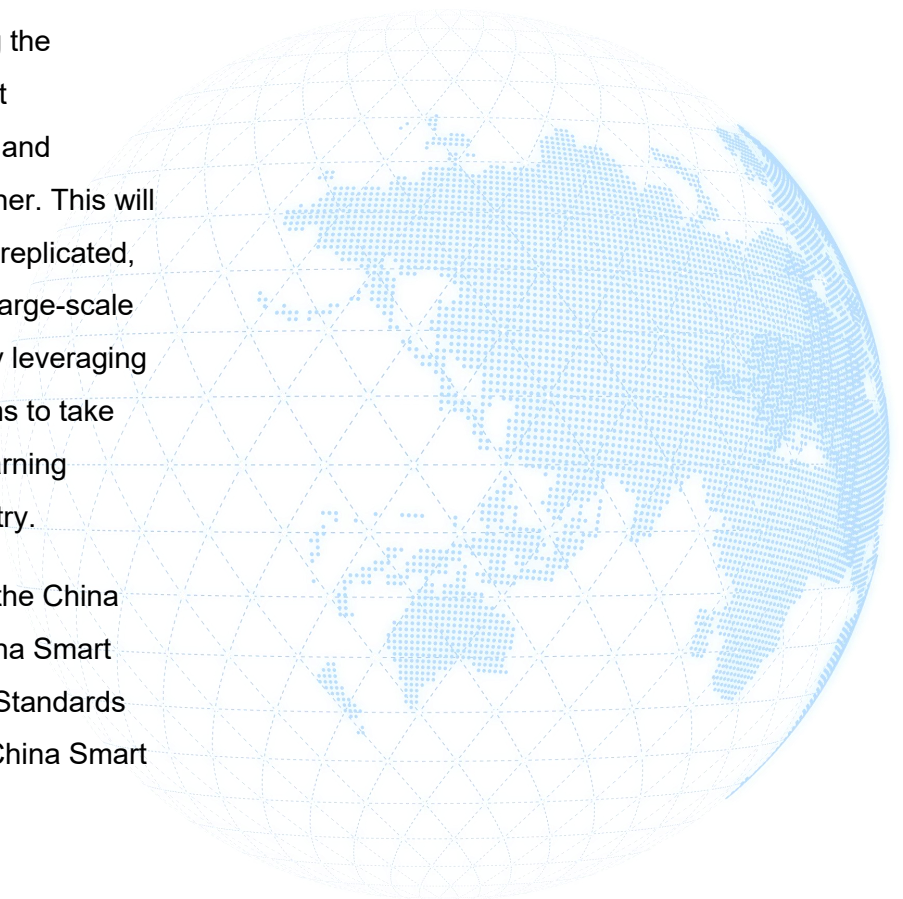
The United Nations Secretary-General reiterated the importance of digital transformation at the conference. UNESCO Director-General Ms. Audrey Azoulay virtually gave the Opening remarks at the World Digital Education Conference. She stressed that Education is a fundamental human right.

Minister Huai stated that China will deepen the implementation of strategic actions for educational digitalization, promoting the digitalization of resources, intelligent management, personalized growth, and socialized learning in a unified manner. This will enable high-quality resources to be replicated, disseminated, and shared, making large-scale personalized education possible. By leveraging educational digitalization, China aims to take new strides forward in building a learning society and a leading learning country.

The conference saw the release of the China Smart Education Bluebook, the China Smart Education Development Index, the Standards and Norms for the Construction of China Smart

Education and the Initiative of Establishing World Digital Education Alliance. In addition, the conference also featured two exhibitions entitled “Exhibition of Applied Digital Education Facilities” and “Exhibition of High-quality Digital Lectures in Primary and Secondary Schools”.

The conference was held online and offline and attended by around 800 participants from more than 130 countries and regions, including State leaders and education ministers, diplomatic envoys, heads and representatives of UN Agencies, heads and representatives of international organizations, universities and schools, and representatives of private sector digital and technology companies.



Chinese vice premier urges efforts to launch more high-quality digital education services, products



Chinese Vice Premier Sun Chunlan made the remarks while addressing the opening of the World Digital Education Conference. She pointed out modern information technology exerts a revolutionary impact on educational development. The Chinese Government attaches great importance to the development of digital education. Through continuous efforts, all primary and secondary schools in the country have access to the Internet. 99.5% schools have multimedia classrooms, and a national public service platform for smart education has been built, which is bringing together 44,000 basic education curriculum resources, 6,757 excellent vocational education

and training courses, 27,000 high-quality massive open online course and experimental courses in higher education. The country has made great improvements in expanding the coverage of quality education resources, promoting balanced development of education and promoting education equity. With 290 million students now enrolled, both those in urban areas and those in remote mountainous regions can access high-quality education. Schools at all levels and of all types are continually enriching digital education application scenarios, promoting the integrated development of digital technology and traditional education, and

innovating educational concepts, methods, and forms, thereby empowering education with digital technology and better serving the essence of nurturing talent.

Sun Chunlan stressed that advancing educational reform and innovation in line with the trend of the digital era is a significant issue confronting all countries worldwide. China is willing to deepen international cooperation in digital education, strengthen the alignment of educational policies and digital education standards, launch more high-quality digital education services and products, enhance the level of digital education governance and public services, and promote the construction of an open and shared, equal and mutually beneficial, healthy and secure global digital education ecosystem. This will ensure that the fruits of digital education benefit people of all countries more extensively and make a greater contribution to promoting human civilization and building a community with a shared future for mankind.

Signing Ceremony of Agreements between the Ministry of Education of P.R.C and China Mobile, China Unicom, and China Telecom

During the World Digital Education Conference held on Feb. 13, the Ministry of Education (MOE) renewed its strategic cooperation agreements with three of China's biggest telecommunications companies (i.e., China Telecom, China Unicom and China Mobile). The agreements aim to promote transformation to digital education, facilitate smart education upgrading, and encourage innovation, so as to improve the quality of China's education.

Over the past decade or so, the MOE has established solid partnerships and effective mechanisms for communication with the three companies. Two phases of strategic cooperation have been completed and remarkable results have been achieved. The three companies have played an important role in building a new infrastructure for education, developing education information technology to achieve poverty alleviation and rural revitalization, and supporting students' remote learning during the COVID-19 epidemic. According to the agreements, the MOE and the three companies will deepen strategic cooperation in building a smart education platform, promote digital management in education, improve teachers' and students' digital literacy and skills, and push ahead reform in education evaluation, among other activities.

The 20th National Congress of the Communist Party of China has strategically deployed to "advance the digitalization of education and build a learning society and a great learning country that promotes lifelong learning for all," providing clear direction and fundamental principles for the digitalization of education. According to the agreement, the Ministry of Education and the three biggest telecommunications companies will comprehensively deepen strategic cooperation in areas such as the construction of smart education platforms, digital management of education, enhancement of digital literacy and skills for teachers and students, and reform of educational evaluation. The three biggest telecommunications companies will fully leverage their role as the main force in national digitalization efforts, earnestly fulfill their social responsibilities and missions, and contribute to the high-quality development and modernization of education.

Deepening Digital Transformation, Building A Bright Future of Education by Huai Jinpeng, Minister of Education of P.R.C



Distinguished guests,
ladies and gentlemen,
dear friends,
Good afternoon!

Just now, we unveiled the opening of the World Digital Education Conference. Chinese government attached great importance to this conference. Vice Premier Sun Chunlan attended the conference and delivered important remarks, stressing the need to build the national smart education platform into an important public service product in the field of education, promoting the integration and

development of digital technology and traditional education, and calling on all countries to work together to carry forward their fine traditions and promote innovation, for digital education to benefit people of all countries. Premier Sun's remarks convey high expectations from the Chinese government on the promotion of high-quality development of digital education, all-round development of our people as well as social and civilizational progress.

Digital transformation marks an important trend of educational transformation worldwide. The theme of "Digital Transformation and the Future of Education" chosen by this

conference serves to echo the Global Development Initiative put forward by President Xi Jinping at the UN General Assembly and the Global Digital Development Path put forward at the World Internet Conference, and respond to the vision statement of UN Secretary-General Guterres at the Transforming Education Summit, jointly exploring new solutions to the global education crisis in turbulent times. Through this conference, we aim to promote international cooperation in digital education, foster consensus on educational reform, boost global educational confidence and create a better educational future.

Ladies and gentlemen, dear friends!

In his remarks at the 17th G20 Summit, President Xi Jinping pointed out: “We meet at a time of momentous changes unseen in a century, changes that are consequential to the world, to our times, and to history”. This is a transformation of the world, the times and history. In the new period of turbulent changes, global warming, anti-globalization, economic recession, regional conflicts and other complex factors are intertwined. The COVID-19 pandemic intensifies uncertainty and instability, the global poverty reduction effort is seriously undermined, and human society is facing unprecedented challenges. The question of the times “What’s wrong with the world? What should we do about it?” reverberates in the globe.

At the same time, the new round of scientific and technological revolution and industrial transformation are developing in depth, and digital technology has played a leading role in transforming and reshaping the thinking pattern, organizational structures and operational models of the human society in a fundamental and all-round manner. This has provided us with new opportunities and challenges for promoting development in an innovative way. “What is the goal of education and what is the path forward” has become a common topic for all countries in the world.

We are encouraged to see that the United Nations and all countries in the world are taking actions, deeming digital education as an important way to meet the challenges and anchor a bright future. UNESCO advocates building a new “social contract”, leveraging the educational dividend brought by digital technologies, so as to recognize education as a global public good. The United Nations Transforming Education Summit proposed that the digital revolution must benefit all learners. Many countries have introduced digital development strategies in response to the times, and education is an integral part. The effective actions of all parties will surely consolidate the “four pillars of education” in the digital age, which include “learning to know, learning to live together, learning to do, and learning to be”.

Ladies and gentlemen, dear friends!

The Chinese government values the development of digital education as an important component of digital China. After years of continuous efforts, China's educational informatization has achieved leap-forward development, with 100% internet access on campus and 99.5% of primary and secondary schools equipped with multimedia classrooms. Major breakthroughs have been achieved in large-scale application, injecting strong impetus into the development of education in China. Since 2022, we have vigorously implemented the national education digitalization strategic action, and put forward the "3C" concept of Connection, Content and Cooperation. Focusing on "Application, Service, Efficiency and Security", we launched the online platform of "Smart Education of China", leveraging digital technologies for high-quality development of education. In the past year, the total number of visits to the platform exceeded 6.7 billion. The platform has now become the largest repository of educational resources in the world.

Smart technologies empower basic education to deliver quality and balanced outcome. "Smart Education of China" brings together the best digital resources of basic education in China, covering 10 sections, 53 columns and 44,000 entries of resources, including moral education, curriculum teaching, physical education, aesthetic education, labor education, after-school service, teacher training,

family education, teaching reform experience and teaching materials. Thanks to the platform, children living far away in border and rural areas can "share the same class" with children living in big cities. Facing the suspension of in-person classes due to the pandemic, the platform supports online learning of nearly 200 million primary and secondary school students in China, so that learning continues despite suspended in-person classes. During the winter and summer vacations, special training was conducted for more than 13 million teachers nationwide to improve their teaching and research ability.

Smart technologies enable higher education to popularize quality courses in

universities. We have seized the opportunity of developing large-scale online courses around the world and accumulated a large number of high-quality open online courses after a decade of development. At present, the platform has owned 76,000 elite teachers in colleges and universities, 27,000 high-quality courses and 1,800 national level quality courses, enabling learners to access the best courses from the world on one single platform, attracting learners from all over the world, with over 13 million international registered users from 166 countries and regions. I remember seeing a netizen's message on the Internet, "This is a wonderful place for people of all ages to study and improve themselves."

Smart technologies facilitate vocational education and enable more people to acquire professional development

abilities. Leveraging the platform, nearly 55% of vocational school teachers have carried out blended teaching, exploring digital technologies and resources such as virtual simulation and digital twinning to simulate real-life scenarios to meet internship and training needs. For example, Hunan Automobile Engineering Vocational College explores the training method of "C+R" remote control and real field application in the 5G environment. Students can complete the training task anytime and anywhere by issuing operation instructions remotely. At present, there are 1,173 professional teaching resource libraries on the platform, more than 6,700 online quality courses, and more than 2,200 open video courses, covering nearly 600 disciplines. 215 training projects of demonstration bases on virtual simulation are distributed all over the country, helping to cultivate technical and skilled talents and nurturing students' all-round growth, thus promoting high-quality economic and social development.

Smart education promotes employment and entrepreneurship, so that talent supply and market demand can be more effectively matched. In 2022, there were more than 10 million college graduates in China, which provided a strong impetus for China's socio-economic development. However, under the

influence of many factors such as the persistent COVID-19 pandemic and the increasing downward pressure on the economy, the employment pressure was unprecedented. We upgraded the online national employment service platform for college students, better matched supply with demand, and accelerated the sharing of job resources, especially for poor families, zero-employment families and graduates with physical disabilities, with a total of 13.7 million jobs shared. The survey shows that nearly one-third of recent graduates have found their jobs through this platform.

China builds a smart education platform, aggregates high-quality, systematic and multi-type digital education resources, and provides all-time one-stop services for students and the public. This has promoted the digitalization and fair allocation of educational resources, meeting the individualized and selective needs of learners and providing strong support for lifelong learning for all.

Ladies and gentlemen, dear friends!

Education is closely linked with human growth and accompanied by the development of civilization. It is the oldest and noblest cause of mankind. However, every major development and innovation of science and technology, and every industrial change and lifestyle transformation, have influenced and even changed education. Digitalization is a new trend

in the future. The integration of education and digitalization heralds a brighter future for both education and human civilization. What should be our values in breaking through the limitations of traditional education and creating new forms of digital education? We believe that:

Digital education should be fair and inclusive. It is our joint pursuit to advance inclusive education and ensure education for all. Digital technology features interconnectivity, high efficiency and real-time dynamic sharing. It can quickly and efficiently aggregate scattered high-quality educational resources, transcend temporal and spatial boundaries for dissemination and sharing across institutions, regions and countries, and enable people in different environments to obtain equal opportunities and channels of educational resources. At the same time, we must prevent the digital divide from aggravating the educational divide and move faster to realize “quality education for all”.

Digital education should be of higher quality. Quality is the lifeline of education, and digital technology is the steppingstone to improving educational quality. The development of digital education can enrich the scenario-based applications such as intelligent classroom, adaptive learning, smart diagnosis of learning progress, smart classroom evaluation, etc. It can also promote the integration and interaction between in-person and online education,

improving pedagogy and making the educational process more creative, experiential and inspirational. Moreover, it is able to foster fundamental changes in classroom education, innovate teaching and talent nurturing. We need to enhance the efficiency and performance of educational governance and assessment through analytical applications of data, improve the efficiency of human learning and cognition, thus empowering better education.

Digital education should be accustomed to all. More than 2500 years ago, Confucius proposed the educational philosophy that education should be tailored to learner’s characteristics. In the history of human civilization, we have been striving to translate this ideal into reality. Digital education has unique advantages in individualized learning, differentiated teaching and informed evaluation. Through information tracking and mining, retrospective digital analysis, scientific monitoring and evaluation, it can record the track of students’ learning progress and provide customize education plans for each student. This will certainly reshape education, making it possible for everyone to receive education tailored to their needs, and contribute to building a learning-oriented society with lifelong learning for all.

Digital education should be conducive to green development. Green development pursues efficiency, harmony and sustainability in

economic growth and social development. Facing intensifying crisis on global energy, climate change and biodiversity, education cannot stand by, instead, it needs to play a fundamental and supporting role to promote green economic and social development. We should follow the principle of frugality, simplicity and cost-effectiveness to develop digital education, with priority given to applications and services. We should remain pragmatic instead of setting unrealistic goals. We should cultivate students' ability to adapt to and mitigate climate change, and use digital textbooks and teaching materials appropriately to catalyze and accelerate a low-carbon transformation of education through digitalization. We will make our contribution to green development and protect the shared homeland of mankind.

Digital education should embrace openness and cooperation. The digital age has brought us an efficient platform for open cooperation, a key factor to promote educational reform and innovation in the new era. We need to adhere to the principle of win-win cooperation, making full use of respective advantages and achieving common development when it comes to eliminating digital barriers, narrowing the digital divide, making education crisis-resilient, fostering growth potential through cooperation, exploring new development highlights, and promoting educational transformation and innovation. We should join hands to strengthen

communication and exchange for more countries and people to share the benefits of digitalization through open cooperation, thus sharing the development achievements of digital education and accelerating educational reforms.

Ladies and gentlemen, dear friends!

At present, the scientific and technological revolution is developing in depth, the industrial transformation is accelerating, and the social governance is iteratively upgrading. The way of human production and life and the way of thinking and communication have changed. New formats and new models are constantly emerging. The demand for diversified and flexible learning is increasing day by day, which not only puts forward an urgent need to reshape the content and form of education, but also drives for educational reform and high-quality development. The 20th National Congress of the CPC made it clear for the first time that we should promote education digitization and build a learning-oriented society and country with lifelong learning for all. We will better implement the strategic action of digitalization of education, promote the digitalization of resources, intelligent management, personalized growth, and socialization of learning, make high-quality resources replicable, transmissible, and shareable, enable large-scale personalized education possible, and take new steps in the construction of a learning society and a learning country with education digitalization. To this end,

we will focus on the following four aspects:

First, strengthening the National Center to pool and share quality resources. Uneven distribution of educational resources is a common problem faced by countries in developing education. The wide application of digital technology has brought opportunities to promote the balance of educational resources and narrow the gap between regions, urban and rural areas and schools. On the basis of our existing work, we will make full use of China's institutional, talent and resource advantages, accelerate the upgrading of system, service and function, and make every effort to build a national center of digital education resource.

We will establish the National Digital Resources Construction Committee to coordinate the development of high-quality resources and the provision of public services, evaluate digital resource management and application, improve the quality of campus education and digital education empowerment, coordinate policy and academic research and practical innovation, construct standards and specifications to ensure safe and efficient operation. Our National Center should be built into a resource development and utilization center, a public service center, an application development center, comprehensive research center and safety operation and maintenance center.

At the same time, the center will serve as a

demonstration project to drive the construction of regional service centers on education resources. By strengthening the national center's hub capacity and connecting regional centers, we can realize resource sharing and mutual recognition, and form a national public service system on digital education with multi-level and multi-party cooperation.

Second, strengthening data empowerment and improving educational effectiveness. The development of digital education pools not only high-quality resources, but also massive treasure of data, which provides important reference for countries to grasp the laws of education, teaching process and students' growth. It could promote the combination of science education with humanistic quality enhancement, synergize engineering education and the training of practical ability, so as to serve all-round growth of students.

We will promote scientific and personalized teaching evaluation, using massive data to sketch learners' profiles and generate educational schemata to better accommodate learners' aptitude. We will promote the decentralized and diversified teaching and learning, conduct pedagogical research in digital education, increasing teachers' digital literacy, innovate and apply diverse education models and evaluation methods to improve teaching quality. We will promote efficient and targeted

education governance. Through application of AI and big data technologies, business collaboration, process optimization, structural remodeling and targeted management can be realized to improve the efficiency of education management and provide a sound basis for informed education decision-making.

Third, improving digital literacy for lifelong learning for all. The transformation of human society to the digital era not only has pressing demands on the socialization of learning, but also turns the lifelong learning more accessible. Education bears an important mission. We should use digital technology to accelerate the construction of a more open and flexible education system that is equal to, suitable for and accompanying everyone. We will actively promote learning for all, with extensive and in-depth application of Smart Education of China as the starting point. By implementing “reading action” and “silver age action”, we not only provide students with curriculum resources, but also learning service environment for the elderly and other members of society, thus building a learning support platform for learners around the world for everyone to get equal learning opportunities.

We will continue to promote comprehensive learning, not only to develop students’ knowledge, literacy and skills, but also to promote language communication and mutual learning from history and culture, so that more

people can have comprehensive qualities for the modern society, and enhance cultural self-confidence, historical awareness and international understanding.

We will actively explore diverse learning, make full use of multiple means such as MOOC, mini-lectures and VR, provide ubiquitous, diverse and smart learning environment and learning ecology, develop efficient and robust online classrooms, to realize unification of education and society.

We will further promote lifelong learning, use digital technology to provide flexible and diverse continuing education opportunities for in-service personnel, provide training for career development and transformation, build a new university system for the elderly population, actively promote the improvement of credit bank, qualification framework and other systems, and lay a solid foundation for building a learning society in which everyone can learn anywhere, anytime.

Fourth, strengthening international cooperation for the prosperous development of civilizations. The development of digital education can enable teenagers from different countries, with different skin colors and different languages to learn and grow together in a common digital space, and enable people from different countries to carry out closer people-to-people and cultural exchanges, so as to deepen

exchanges, tolerance and trust, eliminate barriers and misunderstandings, and promote mutual understanding and progress of mankind.

Teenagers are “network aborigines” and “trendsetters” in the digital era. We should build more communication platforms and create more cooperation opportunities for them, not only to help them understand the differences of global multiculturalism, improve mutual understanding, but also to help them better exchange digital learning experience and be galvanized for the development of the digital society.

We look forward to working with our counterparts from the world to jointly explore the planning, standards, monitoring and evaluation of digital education, carry out exchanges and cooperation in IPR protection, data security management, digital ethical risk prevention and privacy protection, and jointly inject new power into human civilization and make unremitting efforts to build a community with a shared future for mankind.

Ladies and gentlemen, friends!

Facing the future, we are willing to work with all countries to take the World Digital Education Conference as a new starting point, launch the international version of smart education platform, promote the co-construction and sharing of high-quality digital resources, study and design new mechanisms for international cooperation, jointly build a comprehensive, pragmatic and

inclusive partnership, and promote world cooperation in the era of digital transformation to a new height.

Facing the future, we all have dreams. Let the network transcend time and space, let the connection transcend mountains and seas, and let cooperation transcend suspicion. Let us meet the needs of the times with open resources, expand trust and development through digital dialogue and communication, strengthen and optimize the eco-system of digital education for the benefit of all learners.

To realize this beautiful dream, we will always focus on the 3C principle of “connection, content and cooperation”, work with the world to forge ahead with perseverance and courage, and stride ahead of the times!

Ladies and gentlemen, dear friends!

Li Bai, the famous poet in China’s Tang Dynasty once said, “I will mount a long wind some day and break the heavy waves, and set my cloudy sail straight and bridge the deep, deep sea.” Developing digital education and promoting digital transformation are the trend of the times, the need for development, and the direction of reform. It is also the aspiration, responsibility, and mission of all educators.

I believe as long as we join hands in solidarity to seize opportunities and overcome challenges in rising tides, we will set sail in triumph for a brighter future of digital education!

Four Parallel Sessions held at the 2023 WDEC

Parallel Session 1 Empowering High Quality Development of Basic Education with Digitalization

Introduction

The Chinese government attaches great importance to the role of digitalization in improving educational equity, quality and governance and in reshaping educational philosophies, ideas, methods and practices, for such changes underpin and drive reform and development of basic education in the new era. A basic education sub-forum was held during the World Congress on Digital Education with the theme "Implementing strategic actions for education digitalization to empower high-quality development of basic education". Chinese and foreign experts discussed how to leverage digital resources in basic education reform for high-quality development.

Wang Jiayi, Chinese Vice Minister of Education, emphasized that the Chinese government attaches great importance to the digitalization of basic education, dedicated to leading and driving

the reform of basic education through digital technology. At present, digital construction has achieved comprehensive coverage, with remarkable practical effects, providing a powerful impetus for the high-quality development of basic education. Facing the new era, China will unwaveringly advance the digitalization strategy for basic education, ensuring that primary and secondary school students enjoy more equitable and high-quality education. Meanwhile, China is willing to strengthen exchanges and cooperation with countries around the world to jointly explore new paths for digitalization to empower basic education and create a brighter future for it.

快报

中国教育发布 第7期
教育部政务新媒体
2023年2月14日

世界数字教育大会



数字化赋能基础教育高质量发展论坛举行

■ 中国政府高度重视基础教育数字化，注重发挥数字技术对基础教育的引领、推动作用，将数字化与基础教育改革发展同谋划、同部署、同推进，数字化基本建设实现全面覆盖，大规模应用实效明显，为基础教育高质量发展注入强大动力。

■ 中国将坚定不移推进基础教育数字化战略行动，努力为全体中小学生享有更加公平、更高质量的基础教育提供强有力支撑。



China's Basic Education Responding to the Wave of Digital Transformation

Yang Fei, Deputy Director of the Center for Educational Technology and Resource Development of the Chinese Ministry of Education, shared three points of experience: Firstly, design platform functions according to the characteristics of information technology to realize resource sharing, on-demand selection, social sharing, collaborative governance, and open-source construction. Secondly, promote information application by following the laws of data transformation. Thirdly, take users as the center, meet application needs to drive platform upgrades, and plan for the future vision.

The Important Role of New Infrastructure in Basic Education

Zhu Zhiting, Tenured Professor of East China Normal University, believed that the new infrastructure for education should guarantee digital learning rights and break through technical bottlenecks. It is necessary to develop a digital transformation framework suitable for China's basic education, establish pilot schools and gradually expand, cultivate leadership, and build a digital moral education system where humans and machines work together for the best.

How Digitization Facilitates the High-Quality and Balanced Development of Basic Education

Wang Ping, Director of the Shanghai Municipal Education Commission, believed that innovative educational scenarios should be applied to break time and space constraints and empower all aspects. At the municipal level, a digital foundation should be built to break down data islands and achieve high-speed interconnection. Focus should be given to the construction of an application ecosystem, forming an educational ecosystem consisting of developers, markets, open platforms, digital foundations, basic data, and operational norms.

Yu Xiaoqi, Director of the Sichuan Provincial Department of Education, hold the viewpoint that hardware support should be strengthened, and the operation mode of the cloud education alliance should be innovated to cover all educational stages and adopt multiple application modes. It is necessary to improve institutional mechanisms, strengthen leadership and policy support, promote collaboration and sharing, transform school layouts, teacher allocation, and management systems, stimulate endogenous motivation, and promote the effectiveness of high-quality digital educational resources in underperforming schools.

Smart Homework Providing a Practical Path for Digitalization to Empower Education

When mentioning homework, Liu Yexun, Director of the Hefei Education Bureau, stated that Hefei utilizes intelligent terminals to analyze student data and has formed a "Four Lists and Three Gates" homework model. Strengthening homework design can alleviate the homework burden on students, freeing up time for cultural and sports activities and promoting students' comprehensive development.

Guo Jiezhong, Director of the Education Department of Jiangxi Province, shared his thoughts on the construction of the "Smart Homework" platform in his province. The "Smart Homework" platform covers pre-class, in-class, and post-class activities, providing targeted homework assignments and academic performance portraits. It assists education administrative departments in grasping the progress of students' academic performance, offers a new path for reducing the homework burden, and enables homework to better serve the purpose of educating students.

Lu Yunquan, Principal of Beijing 101 Middle School, introduced that Beijing 101 Middle School has constructed a smart campus from five dimensions, driving the reform of the education group and creating brand-new

learning scenarios, including multi-scenario integration, online and offline interaction, and integration inside and outside school, all centered around the learner.

Teachers' Abilities to Adapt to the Education Digitalization

Chen Hongyan, Director of the Education Bureau of Yunlong District, Xuzhou City, Jiangsu Province, believed that in the era of education digitalization, teachers need to possess the abilities to quickly learn new technologies and enhance human-machine collaborative teaching skills; use big data to reflect on classroom teaching and adjust teaching methods accordingly; and be flexible and innovative in exploring the unknown.

Artificial Intelligence Technology Can Facilitate the Digital Transformation of Education

Liu Qingfeng, Chairman of iFLYTEK, believed that the digital transformation of education represents a typical educational revolution empowered by technology. In recent years, advancements in artificial intelligence technology have enabled the digital transformation of education to be better implemented, making it more feasible to provide individualized instruction and ensure that every child has equal access to education.

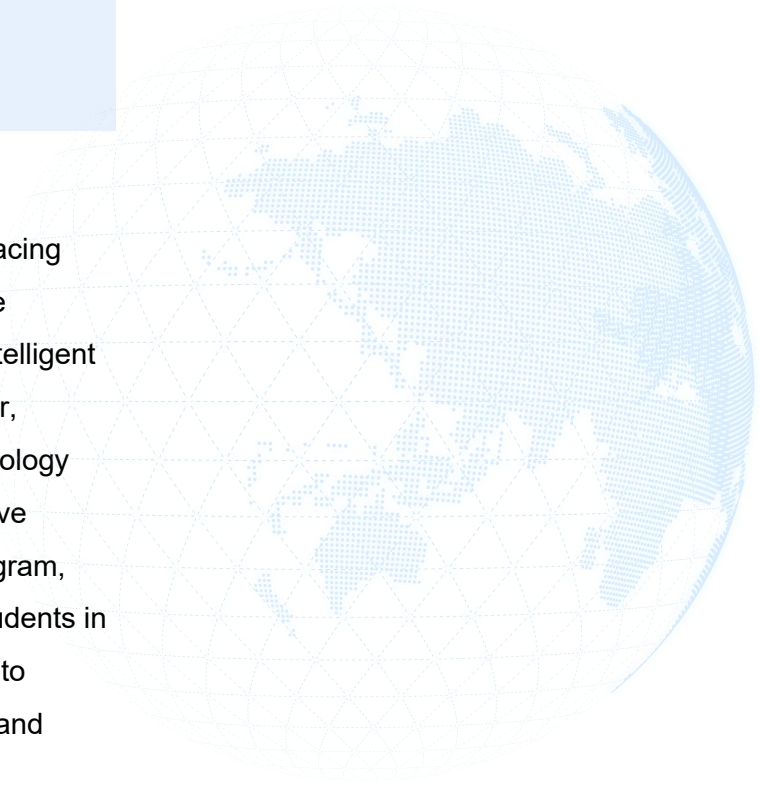
Liu Chang, Chairman of 17 Education & Technology Group Inc., contended that large-scale and routine regional use is the foundation and prerequisite for the digital transformation of education. "What needs to be achieved within a region is comprehensive data collection encompassing homework, classrooms, exams, on-campus and off-campus activities, as well as online and offline interactions. Only through comprehensive data collection can a solid data foundation be established for digital transformation."

International Applications of Digital Education

Jaime Perczyk, Minister of Education of Argentina, shared his view that we are facing significant changes and need to cultivate students with digital literacy to enable intelligent communication and production. However, students are merely consumers of technology rather than producers. Therefore, we have relaunched the "Conectar Igualdad" program, distributing netbooks to teachers and students in public and special education institutions to cultivate their cognition, understanding, and skills.

Amy Lightfoot, Director of Global Research and Innovation for English Programs at the British Council, believed that the UK developed the "What's up" chat app in South Africa. English

language teachers and learners can access language learning resources such as songs, stories, and courses on this app. The app is user-friendly, providing students in areas with relatively scarce educational resources with easy access to learning opportunities.



Parallel Session 2 Digital Transformation and Development of Technological and Vocational Education and Training

Introduction

With the theme of "Transformation and Remodeling: Digital Empowerment of the New Ecology of Vocational Education", this session aimed to explore new paths to the digital transformation and development of vocational education, focusing on cultivating digital skills to meet the needs of the digital economy as well as the new technologies and industrial revolution. Education experts and scholars gathered together to discuss best practices and future development of digital transformation of vocational education from different perspectives.

In her address, Weng Tiehui, the Vice Minister of Education of China, emphasized that China has always attached great importance to the informatization construction of vocational education, incorporating it into the reform and development plans of vocational education for vigorous promotion. Over 20 related projects, including digital campuses for vocational education, informationization benchmark schools,

professional teaching resource libraries, high-quality online open courses, and virtual simulation training bases, have been established. A resource-sharing "National Smart Education Platform for Vocational Education" has been built, laying a solid foundation for promoting the deep integration of digital technology and vocational education and improving the quality of technical and skilled talent cultivation in the digital age. Weng Tiehui advocated that all countries in the world should uphold the



职业教育数字化转型发展平行论坛举行

■ 中国一直高度重视职业教育信息化建设，将其纳入职业教育改革发展规划等着力推进，设立了职业教育数字校园、信息化标杆校、专业教学资源库、精品在线开放课程、虚拟仿真实训基地等相关项目20余个，建成了资源共享的“国家职业教育智慧教育平台”，为推动数字技术与职业教育深度融合、提高数字化时代技术技能人才培养质量夯实了基础。

■ 世界各国秉持互惠互利理念，深化互学互鉴与合作，携手构建职业教育数字化互联互通格局，共同推动国际职业教育数字化迈上新台阶。



concept of mutual benefit and reciprocity, deepen mutual learning, mutual recognition, and cooperation, and work together to build a digital interconnection pattern for vocational education, jointly pushing the digitization of international vocational education to a new level.

Exploring New Breakthroughs in Digital Transformation

Sun Shanxue, Vice President of the Chinese Society for Technical and Vocational Education, believed that the construction of teaching resource libraries holds great promise. He suggested that in the future, the quality of resource library construction should be improved to ensure their development follows a legal track; exploration should be conducted into the certification of course learning outcomes; schools should be encouraged to jointly build resource libraries; and multilingual content should be developed for resource libraries to promote international education exchanges and cooperation.

Han Xibin, Vice Dean of the Institute of Education at Tsinghua University, pointed out that vocational education has its own uniqueness, such as the integration of industry and education and cooperation between schools and enterprises. In the future, more attention should be paid to the role and power of enterprises in the digital transformation of

vocational education. By jointly developing digital courses, practical training and internship resources, and setting learning evaluation standards between schools and enterprises, vocational education can achieve digital transformation while adhering to its own characteristics.

Zhang Jiajun, Director of the Vocational Education and Lifelong Education Division of the Guangdong Provincial Department of Education, believed that to promote the digital transformation of vocational education, it is necessary to establish benchmark models and give full play to the main role of each school. He said: "All talent cultivation ultimately falls on the school level. In the next step, we will further strengthen policy guidance and guide schools to advance digital transformation construction and development at different levels through project promotion, starting from demand and prioritizing application."

Promoting Sustainable Development of Agricultural Food Systems

Mr. Carlos Watson, Representative of the Food and Agriculture Organization of the United Nations (FAO) in China, introduced that the FAO has organized and implemented farmer field school projects in various forms in China, contributing to poverty reduction, rural revitalization, and sustainable agriculture. He believed that achieving the UN's Sustainable

Development Goals by 2030 requires the support of more productive, efficient, and sustainable agricultural food systems. He was confident that the digital transformation and development of vocational education and training will accelerate the realization of this goal.

Exploring New Paths and Deep Integration of Digital Transformation

Yuan Zhenguo, a Tenured Professor at East China Normal University, believed that "Education + Artificial Intelligence" should focus on people and learning, aiming to facilitate free, comprehensive, and individualized human development. It involves continuously creating and exploring new educational scenarios and forms, guided by problem-solving and practical needs, as well as educational and human development laws. Technology should serve education, playing an irreplaceable role in promoting human development through intelligent education.

Zhang Huibo, Secretary of the Party Committee of Ningbo Polytechnic, proposed to expand the coverage of quality educational resources at a lower cost and faster speed by promoting the deep integration of information technology with education and teaching. This will ensure that digital resources are balanced and adequately cover every region, vocational college, and student, achieving comprehensive resource coverage.

Yang Xinbin, Secretary of the Party Committee of Shenzhen Polytechnic University, believed that there is still a long way to go in promoting the digitalization of school-enterprise cooperation. He said that on the one hand, a dual governance system between schools and enterprises and a digital transformation ecosystem need to be established to advance innovations in the governance structure and operational mode of specialty industry colleges. On the other hand, big data analysis of industrial development should be conducted to facilitate precise matching between the supply side of vocational education and the demand side of industry.

Zheng Shaozhong, President of Lanzhou Resource and Environment Vocational and Technical University, stated that the university has achieved the digital transformation of education by constructing a digital curriculum system, building digital resources, and developing a digital teacher team. Combining professional characteristics with local economic and social development, the university has improved the alignment between professional development, talent cultivation, and social digital transformation.

Some vocational colleges brought their reform plans to the forum. Shenzhen Polytechnic

University built the country's first 5G+ smart campus for vocational education, promoted the construction of the Ministry of Education's smart ICT virtual simulation training base, and completed the construction of an ICT public training center and nine ICT training sub-centers. Additionally, 158 smart classrooms were established, with about half equipped with online course recording and broadcasting systems. Yangling Vocational and Technical College innovatively promoted the "co-construction, co-sharing, and co-management" of smart agriculture digital resources with the region, strengthening the cultivation of smart agriculture talents. Ningbo Polytechnic cooperated with Ningbo Petrochemical Industrial Park to build a digital twin teaching practice platform, innovatively forming an education mode of "deep integration between the college and the industrial park." The achievement won the first prize of the First National Vocational Education Teaching Achievement Award.



Parallel Session 3 Promoting Innovative Development of Higher Education with Digital Transformation

Introduction

With the development and application of a new generation of digital technologies, digital industrial transformation and innovation has become a global phenomenon. The digital transformation of education, as an important engine and innovative path for the high-quality development of higher education, has triggered systematic changes in teaching methods, school-running models, governance systems and guarantee mechanisms of higher education, thus reshaping the whole ecology. This session aimed to share the experiences of digital transformation of higher education in various countries, contribute to the global digital transformation, and to promote an innovation-led development of higher education.

Digital Transformation Promoting Inclusive and Balanced Development of Higher Education

Wu Yan, Vice Minister of Education of China, pointed out that the technological revolution

and industrial transformation in the 21st century have brought immense developmental opportunities, with digital transformation becoming a key to improving factor productivity. China has implemented a digital education strategy, achieving remarkable results in the digitalization of higher education. It has constructed a digital policy support system, built a national smart education platform, promoted the "MOOCs for Western China Plan 慕课西部行计划," facilitated the integration of information

快报

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世界数字教育大会



高等教育平行论坛成功举办

■ 近年来，中国实施教育数字化战略行动，加快推动高等教育数字化转型，高等教育数字化取得了显著成效。构建了在线教育数字化政策支持体系，建设了国家智慧教育平台，深入推进“慕课西部行计划”，持续推动信息技术与教育教学深度融合，掀起了一场“学习革命”。连续三年举办世界慕课与在线教育大会，发起成立世界慕课与在线教育联盟，搭建起慕课与在线国际交流合作新机制、新平台，为世界高等教育数字化发展贡献了中国经验、中国方案。

■ 国际组织、各国政府、高校、企业等利益相关者团结起来，共同推进教育数字化改革发展，构建全球高等教育共同体，重塑数字化育人新范式，培育高等教育新形态。



technology with education and teaching, and sparked a "learning revolution." Meanwhile, through platforms such as the Global MOOC and Online Education Conference, China has contributed Chinese experience and solutions to the digital development of world higher education. Wu Yan advocated for international organizations, governments, universities, enterprises, and other stakeholders to unite and jointly advance the reform and development of digital education, build a global higher education community, reshape new paradigms for digital education, and cultivate new forms of higher education.

Digitalization of Higher Education Will Reshape Education Methods

Shahbaz Khan, Director of the UNESCO Beijing Regional Office, delivered the opening remarks. He expressed his view that UNESCO's proposition is very clear: in the process of digital innovation, the capabilities and skills of university teachers must be enhanced. Cultivating university teachers' digital literacy and supporting their effective use of technology are crucial steps in achieving inclusive and high-quality online blended teaching.

Yao Qizhi, Academician of the Chinese Academy of Sciences, believed that digitalization can assist in the cultivation of interdisciplinary talents. It is necessary to establish benchmark digital technology courses, encourage young students to broaden their

horizons by leveraging digital opportunities such as MOOCs, and stimulate cross-disciplinary interests. Digital technology should be treated as a basic science, introduced to students from middle school, and could be considered for inclusion in the National College Entrance Examination.

Yang Zongkai, Chairman of the University Steering Committee on Teaching Informationization and Pedagogical Innovation of the Ministry of Education, stated that to complete the digital transformation of education in higher education, it is necessary to base education on knowledge and emphasize capabilities, handle the relationship between humans and machines, and construct education centered on capabilities. How to innovate our school-running models, education methods, and even management approaches in the process of digital transformation is a very important task that our universities may face.

Li Daoliang, member of the Expert Advisory Committee on Agricultural and Rural Informatization of the Ministry of Agriculture and Rural Affairs, proposed that deepening the cultivation of talents in new agricultural disciplines requires strengthening the support of basic disciplines, deploying emerging disciplines in digital agriculture, constructing an interdisciplinary curriculum system, and innovating talent cultivation models. Through cooperation between universities and education, and integration of industry and

education, high-level and diversified digital agriculture talents should be cultivated to serve the country's self-reliance in digital agricultural science and technology.

Zhou Lidong, Corporate Vice President of Microsoft, shared his view that against the backdrop of computer technology development, education should reconsider its essence. Computer science will become a foundational discipline spanning various fields, and students need to possess computational thinking. Interdisciplinary education should become the new norm to cultivate composite talents. Higher education should focus on nurturing people, stimulating students' curiosity, imagination, and creativity, and cultivating their abilities to actively think critically and explore the unknown.

John Hopcroft, Turing Award Laureate and Member of the National Academy of Sciences, stated that the information age has a significant impact on education. We need to educate the next generation to freely explore what interests them. We should also review the mission of universities in a timely manner. The mission of universities is education, enabling people to lead better lives, which means helping students discover what they like, nurturing them, and enabling them to lead good lives.

Reshape Future Higher Education with Digital Technology

Yu Xinjie, Professor at Tsinghua University,

believed that with technologies such as semantic recognition, artificial intelligence, and data mining, learners can quickly obtain answers and guidance to the knowledge they need, enhancing the learning experience. Meanwhile, new technologies can also drive teachers to improve their teaching abilities.

Lionel M. Ni, President of the Hong Kong University of Science and Technology (Guangzhou), emphasized that digital technology will comprehensively affect higher education, enrich learning resources, break down campus boundaries, establish flexible and personalized curriculum systems, and create highly participatory learning environments. Future higher education will be more transparent and high-quality, with more refined knowledge production and dissemination.

Challenges in the Context of Digital Education

Mr. Jesús Seade, Ambassador of Mexico to the People's Republic of China, pointed out three major challenges in the context of digital education: leveraging digital means to narrow technology, education, and income gaps; education, and integration of industry and promoting universal learning and expanding the scope of virtual courses; and having a dialectical understanding of information technology to develop education systems, promote lifelong skill learning, and keep pace with rapid technological changes.

Parallel Session 4 Evaluation of Smart Education Development

Introduction

This session brought together renowned experts on smart education from across the globe, to discuss ideas and policy of Smart Education in the digital era, as well as the mechanism to evaluate the level of development of Smart Education. Through global and comparative perspectives, participants discussed the principles and methods for evaluation and analyze the current level of smart education development in the world, in an effort to seek theoretical consensus, share best practices and advance the future development of smart education. This session introduced China's Strategic Action Plan for Education Digitalization, progress of the Smart Education of China (SEC) platform, an online portal of educational resources and tools, and China Smart Education Bluebook (2022), Report on China Smart Education Development Index 2022.

Chen Jie, Vice Minister of Education of China, pointed out that advancing the digital transformation of education and developing smart education are strategic choices in response to the changes of the times and society, and are common goals universally pursued by countries around the world. The purpose of this conference was to conduct in-depth research and discussions on how to establish a new evaluation paradigm and evaluation system that fits the characteristics of the digital age, adapts to the development of smart education, and leads the trend of smart education. Chen Jie emphasized that China is willing to work with other countries, international organizations, and



智慧教育发展评价平行论坛举办

■ 本次大会旨在就如何建立契合数字化时代特点、适应智慧教育发展、引领智慧教育潮流的新型评价范式和评价体系，开展深入研究和探讨。

■ 中国愿同各国、国际组织和有关专家一道，在平等、互鉴、对话、包容的框架下深化务实合作，共建学术研究网络，共享实践探索经验，共创良好发展生态，共同推进教育数字化变革，携手开创人类智慧教育发展新篇章。



relevant experts to deepen pragmatic cooperation under the framework of equality, mutual learning, dialogue, and inclusiveness, to jointly build academic research networks, share practical exploration experiences, create a favorable development environment, jointly promote the digital transformation of education, and work together to open a new chapter in the development of human smart education.

The core of smart education is to provide students with a positive learning and development experience.

Zhu Zhiting, Tenured Professor at East China Normal University, believed that smart education is an organic unity of science, technology, art, and humanity, with its core value being to provide students with a positive learning and development experience. Smart education leads the digital transformation of education towards "enlightenment," and its sustained and healthy development depends on in-depth research to discover new laws of ecological learning.

Zhang Minxuan, Director of the Teacher Education Center under the auspices of UNESCO, mentioned that developed countries and newly industrialized countries are rushing to invest in the process of digital transformation of education, having conducted multiple rounds of strategic planning and layout. Iterative progress

is a notable characteristic of the global digital transformation of education, with the key development and construction focuses being connectivity, content, and capacity building, while maintaining a high degree of vigilance against ethical risks posed by digital changes.

Cao Peijie, Deputy Director of the Institute of Future Education of the China National Academy of Education Sciences (CNAES), summarized the characteristics of smart education from four aspects: educational environment, curriculum teaching, educational governance, and talent quality. He stated that smart education provides ubiquitous intelligent learning spaces, universally applicable individualized instruction, precise and intelligent management services, and innovative talents of the times.

Positive Development of Smart Education

Zhang Yongkai, Deputy Director of the Beijing Municipal Education Commission, pointed out that based on Beijing's practice in developing smart education, building a high-quality smart education system that is networked, ubiquitous, personalized, and lifelong requires giving full play to the leading role of smart education evaluation, holistically innovating educational concepts, promoting changes in educational models, deeply advancing educational

evaluation reforms, establishing a smart governance model for administering education in accordance with the law, and improving the lifelong learning system.

Huang Ronghuai, Dean of the Smart Learning Institute of Beijing Normal University, shared his opinions on building a new ecology for smart education. He mentioned that smart learning environments, new teaching models, and modern educational systems constitute the three levels of smart education. Learning effectiveness, educational efficiency, and the effectiveness of digital resources and tools; personalized learning and differentiated teaching; and knowledge productivity and talent cultivation systems are the concrete manifestations of these three levels, respectively.

Ma Xiaoqiang, Director of the Institute of Education Statistics and Data Analysis of CNAES, believed that smart education should find a balance between ideal and reality, aiming to create a talent cultivation landscape in the digital era for the improvement of national quality. The wisdom of education stems from connections, the essence of educational activities is interaction, and technology has always been the core driving force for educational change. Individualized instruction is our shared educational philosophy.

Mr. Andreas Schleicher, Director for the

Directorate of Education and Skills of the Organisation for Economic Co-operation and Development (OECD), pointed out that smart education can completely upend our imagination. We need to use technology to help students prepare adequately and actively participate in social life, provide advice to young learners, support for teachers, and establish truly effective partnerships with relevant industries, enterprises, and ecosystems. This requires strong collaboration among highly skilled educators with professional knowledge.



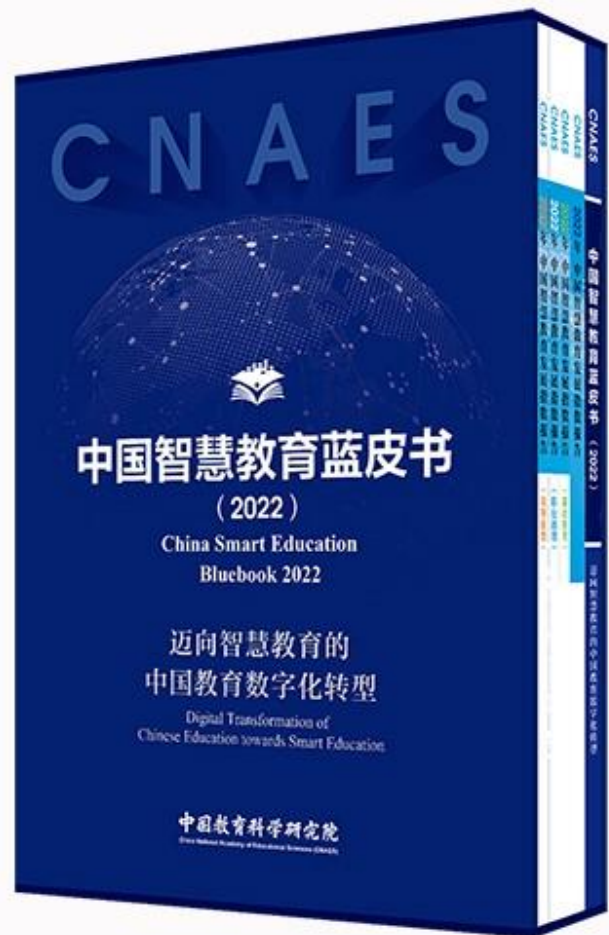
Release of Conference Deliverables

China Smart Education Bluebook and China Smart Education Development Index

The Ministry of Education and the National Commission of China for UNESCO jointly held the World Digital Education Conference on Feb. 13. Mr. Li Yongzhi, Director of the China National Academy of Educational Sciences (CNAES), officially released *the China Smart Education Bluebook 2022 and the China Smart Education Development Index Report 2022* to both domestic and international audiences.

The Bluebook defines 16 essential elements of smart education along four separate dimensions: environment, instruction, governance, and talent. The report presents an overview of China's experience in establishing smart education and identifies seven significant concerns and five recommendations for the international community to consider in the future. It regards five aspects of smart education as innovative: its

underlying philosophy, organization, teaching paradigm, educational content, and the manner in which it combines physical, social, and digital areas to create educational settings.



The innovative aspects of smart education manifests as follows:

Firstly, it is novel in its core philosophy. Smart education is not only a concrete action concerning people's livelihood but also a significant strategy related to national development. Through technology empowerment and data-driven approaches, it will comprehensively empower educational transformation, systematically construct a new ecosystem of the relationship between education and society, provide suitable education for every learner, turn the millennia-old dream of individualized

instruction into reality, and historically achieve a comprehensive and high degree of unity between individual development at the micro level and social development at the macro level for the first time.

Secondly, it is novel in its organization.

Smart education will transcend the boundaries of school education, promote diverse integrations of various education types, resources, and elements, advance collaborative education among schools, families, and society, and construct a high-quality and personalized lifelong learning system where everyone can learn anywhere and anytime.

Thirdly, it is novel in its teaching paradigm.

Smart education will integrate physical, social, and digital spaces, innovate educational and teaching scenarios, promote human-technology integration, cultivate learning communities across grades, classes, disciplines, and time and space, and achieve an organic combination of scaled education and personalized cultivation.

Fourthly, it is novel in its educational

content. Smart education will focus on developing quality education, establish digital knowledge maps based on systematic logical relationships among knowledge points, innovate content presentation methods, make learning a delightful experience, and cultivate learners' high-order thinking abilities, comprehensive innovation abilities, and lifelong learning abilities.

Lastly, it is novel in its educational

governance. Smart education will take data governance as its core and intelligent technology as its driver, holistically promote the reengineering of educational management and business processes, and enhance the modernization of the educational governance system and governance capabilities.

According to the report, smart education prioritizes individual development and focuses on facilitating social and economic development. Smart education establishes a tailored lifelong learning system by integrating diverse forms of education, resources, and components. It dismantles traditional barriers to school education and unites families, schools, and society to foster the growth of children as a whole. It stresses the integration of people and technology and encourages the creation of learning communities across disciplines, learning stages, and time. In addition to emphasizing the provision of quality instruction, smart education strives to encourage critical thinking, comprehensive innovation capabilities, and lifetime learning abilities, thereby enhancing the learning experience for students.

The Smart Education Development Index Report investigates the creation of an assessment index system comprising four major indicators and 12 supplementary parameters. In an effort to measure the scope of China's smart education, it contains three separate studies on

basic education, vocational education, and higher education.

Entering the digital era, the promotion of educational digital transformation and the exploration of smart education have garnered attention from countries worldwide. In 2022, China launched a national digital education strategy and built the world's largest repository of educational resources, which has garnered over 58.7 billion visits from over 200 countries. The platform played a crucial role in offering uninterrupted education during the Omicron outbreak, as well as in bridging the digital divide. As a national educational think tank, CNAES has targeted smart education, compiled practices and research findings from both domestic and international sources, extensively sought opinions from various stakeholders, and forged a consensus to produce the China Smart Education Bluebook and the China Smart Education Development Index Report.



The Standards and Norms for the Construction of the Smart Education

智慧教育平台标准发布 Launch of Standards for the Smart Education Platform

The World Digital Education Conference (WDEC) was held on Feb. 13. As one of the major outcomes of the conference, seven standards for smart education platforms were issued by the Ministry of Education (MOE) and presented by Lei Chaozi, director of the MOE's Department of Science and Information Technology.

Standardization, as an important hallmark of modern industrial civilization, is a major benchmark for assessing the level of social management and a crucial tool for upgrading industrial development. Today, countries around the world are actively promoting the digital transformation of education in a bid to improve the quality of education via the application of digital technologies. Research and development of standards and norms for digital education will accelerate the digital and intelligent transformation of education and then vigorously promote education modernization.

China takes an active part in the development

of international standards for educational informatization. Based on the China E-Learning Technology Standardization Committee under the Ministry of Education, China is playing an active role as a member country at ISO/IEC JTC1/SC36 in working together with other countries across the globe to promote the international standard setting for digital education. Of the 55 international standards already published by this organization, China spearheads 8, plays an integral part in 14, and works as the convenor for three working groups. In recent years, China has proposed and edited four international standards and shared its experience on such topics as digital campus, IoT, digital twin, digital literacy and so on.

China places great importance on standard development for digital education. China's Education Modernization 2035 has set a clear goal to improve the standard system for education quality. In the implementation of

the national education digitalization strategic action, the importance to enhance the standard and norm system for educational digitalization was further emphasized, which calls for stepped-up efforts to roll out related standards and norms timely, so as to support the implementation of the strategic action.

The seven standards issued at the current WDEC involve four major aspects: platforms, data, resources, and digital literacy. The standards provide guidance on the establishment and operation of smart education platforms. In addition, they will play a significant role in supporting the safe sharing, management, and long-term expansion of digital educational resources, as well as promoting the integration of information technologies in the education system.



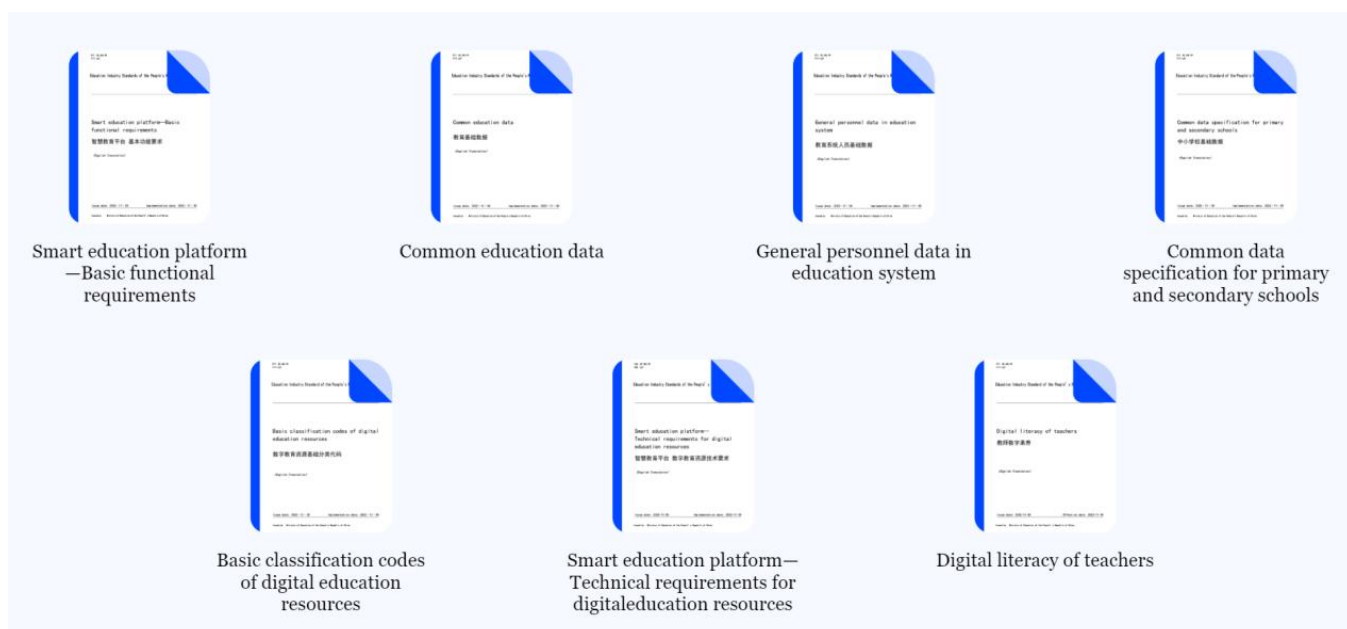
First, on platform, Smart education platform—Basic functional requirements were announced. It defines the requirements for the basic functions of smart education platforms at all levels and of all types, which provides important rationales for the development and management of the smart education platform system.

Second, on data, three standards were announced, namely, Common education data, General personnel data in education system, and Common data specification for primary and secondary schools. They have selected the frequently used, general and core data from education management to fully support data aggregation and safe sharing, so as to provide guarantee for education management and decision-making and help to improve the level of education governance.

Third, on resources, two standards were announced, namely, Basic classification codes of digital education resources and Smart education platform—Technical requirements for digital education resources. They have specified the requirements for the development and application of various digital education resources from multiple perspectives, thus providing an effective pathway for joint contribution and sharing, quality control and sustained development of digital education resources.

Lastly, on literacy, Digital literacy of teachers, which was released on the day, describes the digital competence that teachers should have in the future from the five dimensions of digital awareness, digital technology knowledge and skills, digital application, digital society responsibility and professional development, with a view to promoting in-depth integration, application and innovation of digital technology and teaching.

Digital education propels education transformation and benefits all learners. There is still a long way ahead for future standardization in this area, which calls for countries across the world to work together. We thus suggest that all countries strengthen cooperation and promote resource sharing for the development of international standards in digital education to build a community of digital education standardization. In doing so, we will make digital education open, inclusive and resilient, enable people of all countries to share the accomplishments of education reform and development, and jointly open up a new prospect for the future of digital education.



The Initiative of Establishing World Digital Education Alliance

At the World Digital Education Conference, Liu Limin, president of the China Education Association for International Exchange, announced an initiative to establish the World Digital Education Alliance.

The initiative was jointly launched by the China Education Association for International Exchange, Peking University, Tsinghua University, Beijing Normal University, the National Institute of Education Sciences, the Center for Educational Technology and Resource Development of the Ministry of Education, and the China Education Publishing & Media Group, under the auspices of the UNESCO Institute for Information Technologies in Education, the Arab League Educational, Cultural and Scientific Organization, the International Society for Technology in Education, and the Southeast Asian Ministers of Education Organization. The initiative aims to fulfill the UN Sustainable Development Goal 4, build a mechanism for international cooperation and exchange in digital education, form synergy to promote global educational development, and create a new environment for smart education.

On behalf of the initiators, Liu Limin invited all stakeholders around the world to participate in building the Alliance, work together to promote the sharing of digital education resources and strengthen interconnection, and join hands to

tackle challenges in the education sector.

Based on the principles of “voluntariness, equality, mutual benefit, and win-win,” the Alliance is committed to building global digital education partnerships, establishing networks with educational technology organizations, encouraging experience sharing in digital education, and building resilience in education.

Call for Global Partnership on Digital Education Development

Currently, digital technology is the leading force of the world's scientific and technological revolution and industrial transformation. As such, digital technology is increasingly integrated into economic and social development, including education, which is profoundly changing modes of production, life and social governance. The UN Transforming Education Summit held in 2022 pointed out that global education faces serious challenges and learning crises. Education transformation is urgently needed, and the power of digital transformation must be fully harnessed to ensure that quality education and lifelong learning are made available to all as a common good. In the face of opportunities and challenges resulting from digitalization, the World Digital Education Conference calls for the international community to strengthen dialogue and exchanges, deepen practical cooperation and work together to promote the digital transformation of education and the realization of Education 2030 Agenda.

The World Digital Education Conference calls for global collaboration and partnership in the following ways:

First, strengthen policy dialogue and communication. Policies are the key drivers for the digital transformation of education. We advocate that countries strengthen policy

dialogue on education digitalization, conduct extensive and in-depth exchanges on new concepts, strategies, plans, standards, monitoring and evaluation of education digitalization. We will jointly promote increased investment in education digitalization, as well as encourage stakeholders to actively participate in the digital transformation of education. We will also jointly explore effective policies to narrow digital divide, improve equity, inclusion and quality of education, and ensure safe and ethical use of digital applications.

Second, improve connectivity through infrastructure construction. Infrastructure construction is the basis for the digital transformation of education. We advocate for collaboration in the design of digital education infrastructure systems, digital education platforms, smart campuses, cyber learning space, and digital education security technology, thereby promoting digital education infrastructure's interconnectivity. We will jointly create a global smart learning environment, where everyone can learn anywhere at any time.

Third, promote sharing of digital resources. The open sharing of digital educational resources is the key to narrow the digital divide and education gap. We call

upon all stakeholders to adhere to the principle of co-construction and sharing, to build public service platforms for digital educational resources and to meet the diversified needs. Based on the protection of intellectual property rights, we need to engage more participators in the development of digital educational resources. This leads to high-quality digital educational resources that benefit more people, especially marginalized areas and groups, and ensure equitable, inclusive education.

Fourth, promote exchange of technology integration and application. Application is the most fundamental and powerful driving force for the digitalization of education. The deep integration of digital technology and education has the great potential to build new educational ecology, new methods of teaching and learning, as well as new ways of educational governance. We call for exchanges of best practices in the digital application of education. We encourage countries and stakeholders to collaborate on evidence-based research, curriculum development, as well as innovative teaching and learning application research. This cooperation will also lead to exploring new ways of talent nurturing and new models of educational governance in the digital era, in addition to jointly promoting the iterative upgrading of digital education.

Fifth, promote cooperation on capacity building. Capacity building is an effective guarantee to succeed in the digital

transformation of education. We call on all countries and stakeholders to carry out extensive exchanges and collaboration in teacher and administrator training. It is encouraged to share training resources and collaborate on developing digital teaching solutions for teachers. We need to co-create digital competency courses for students and construct e-library for teachers. We must strengthen exchanges and cooperation in digital education in order to support capacity building for all, especially women, girls and people with disabilities.

Sixth, jointly establish and improve international cooperation mechanisms.

International cooperation in education is an important driving force for digital transformation. We encourage all parties to work together to host the World Digital Education Conference and build a long-term mechanism and platform for international exchanges and cooperation. We will jointly promote the establishment of the World Digital Education Alliance, building a comprehensive, pragmatic and inclusive high-quality partnership. This alliance will actively carry out South-South and North-South-South cooperation, with an emphasis on priority Africa and small island countries. With a joint focus on solving youth problems in the development of digital education, fully stimulating the potential of youth innovation and creativity, and working together to build a global community with a shared future in digital education, we will create a better future of education together.

Exhibition of Applied Digital Education Facilities



With the theme of "Digital Technology Enables Education", the Exhibition of Applied Digital Education Facilities featured representative educational facilities and typically applied cases characterized by professionalization, refinement, specialization and novelty. It highlighted the contribution educational facilities made to enabling digitalized transformation of education, promoting education fairness and enhancing teaching outcomes, etc. The exhibition demonstrated the achievement of digital education facilities in promoting high quality educational development, strengthening communication and cooperation in the educational field, and enhancing the international influence of China's digital education.

The exhibition comprised five thematic sections, including Cloud Platform Service, Facilitating Well-rounded Education, Application of Innovative Teaching, Technology Promotes Transformation, and

Application Enables Teaching. Visual exhibits such as pictures, texts, and short videos on electronic screens were displayed with prototypes that supported interactive experience.

5G数智化服务国家教育数字化战略行动，办好人民满意教育
5G digital intelligence serves the national education digitalization strategy and help education meet the people's expectations

低时延 Low latency	毫秒级延时无卡顿 Delay at the millisecond level without stuttering	高速率 High rate	4K/8K高清传输 4K/8K HD transmission	广覆盖 Wide coverage	泛在化万物互联 Ubiquitous Internet of Everything
教育评价变革 Educational evaluation reform 远程考试 体育评价 Distance examination PE evaluation		教学范式变革 Pedagogical paradigm reform 远程教学 VR虚拟教学 Distance learning VR teaching		治理模式变革 Governance model reform 区域治理 平安校园 Regional governance Safe campus	

5G 智慧体育
5G smart sports

实时动作捕捉
Real-time motion capture

AI大数据分析
AI big data analysis

个性化因材施教
Personalized and individualized teaching

成都天府七中智慧体育
Chengdu Tianfu Seventh Middle School Smart Sports

智慧体育数据驾驶舱
Smart PE data cockpit

AI动作识别率高达至99.9%
AI motion recognition rate up to 99.9%
服务超万所学校百余万学生
Serving millions of students in more than 10,000 schools

5G AR/VR教学
5G AR/VR teaching

沉浸式互动
Immersive interaction

优质资源共享
High-quality resource sharing

生动化教学
Lively teaching

成都泡桐树小学VR教学
VR teaching in Chengdu Paotongshu Primary School

VR教学课程内容
Course content of VR teaching

含超万节特色VR场景教学课程
Featuring more than 10,000 lessons with characteristic VR teaching scenarios
服务20省超50万师生创新教学
Enabling innovative teaching for more than 500,000 teachers and students in 20 provinces

5G+Smart Teaching

数智科技赋能科创活动，助力师生数字素养提升
Support Science and Innovation Activities by Digital Intelligence Technology
Promote the Improvement of Digital Literacy of Teachers and Students

数字德育
Digital moral education

“悦”读当途 见证成长
加入“悦”读当途，见证今夏成长
阅读就是成长

高质量立德树人
Strengthen moral values in high quality

云上科普
Science popularization on cloud

和航天员一起去太空

云端提升科学素养
Improve scientific literacy on cloud

艺朵云校
Art school online

2022暑假“艺朵云校”主题活动
艺术互联网学校 主题活动

构建美育共同体
Build an aesthetic education community

综合素质评价落实五育并举
Implement five-dimension education by comprehensive quality evaluation

教学视频云支撑素养提升
Promote literacy by platform of teaching on cloud

大数据
big data

5G

光宽
optical fiber bandwidth

云
cloud

AI

Science and Innovation Activities Promoting the Digital Literacy of Teachers and Students

人工智能 创新教育

AI Innovation Education

典型应用 TYPICAL APPLICATIONS

以《中小学人工智能》课程为核心，结合助教机器人应用到AI课堂教学，人工智能创新教育已覆盖北京、上海、江苏、澳门等全国28个省级行政区及部分海外地区，在1600+学校落地应用，服务师生120余万，培养并储备人工智能科创人才40余万。

With the curriculum of Artificial Intelligence In Primary and Secondary Schools as the core, combined with the application of teaching assistant robots to AI classroom teaching, AI innovation education has covered 28 provincial administrative regions in China, including Beijing, Shanghai, Jiangsu, and Macao SAR, as well as some overseas regions. It has been applied in more than 1600 schools, serving more than 1.2 million teachers and students, and cultivating more than 400 thousand AI science and technology innovation talents.



Innovative Education in Artificial Intelligence

Tencent 腾讯 | 腾讯SSV | 数字支教

数字支教系统——以数字化助力乡村教育高质量发展

Digital Volunteer Teaching System—Promoting the High-quality Development of Rural Education with Digitalization

依托国家平台优质资源，搭建便捷、适用的乡村学校双师课堂，把数字化作为创新乡村教育的有效手段

The system is relying on quality resources of Smart Platform for National Basic Education, building convenient and applicable dual-teacher classrooms in rural schools and leveraging digitalization for rural education innovation



Digital Empowerment for Rural Education Support



京師書法 JINGSHI CALLIGRAPHY

典型应用 TYPICAL APPLICATIONS

京師書法已覆盖北京市、重庆市、安徽省等全国29个省级行政区，6550所学校，服务100余万师生，使用区域的书法开课率明显提升。

Jingshi Calligraphy has been applied to 6,550 schools in 29 provincial administrative regions in China, including Beijing, Chongqing, Anhui etc., serving more than 1 million teachers and students. The number of calligraphy courses in these areas is increasing significantly.

quality content and diversified teaching methods
📁 优质的内容资源，丰富的教学方式

提供教材课程、通用课程、硬笔课程、名家讲解等多种教学方式，充分满足教师教学需求。
Textbook-based courses, general courses, pen-and-ink calligraphy courses and expert instructions are provided to meet teachers' needs.

multi-dimensional intelligent evaluation based on three methods
📊 三种评测方式，多维智能评测

采用人工智能评测技术，对学生作品多维度分析、全方位评价学生书法学习效果，提升书写能力。
Artificial intelligence evaluation technology is used to analyze student's calligraphy works and their learning results. Such a multi-dimensional approach helps improve students' hand writing ability.

visualized teaching data focusing on education scenarios
👤 聚焦教育场景，教学数据可视化

实时掌握数字动态，帮助教育管理部门直观了解开课数据和软件使用情况。
Real-time pedagogical activities are provided and visualized to keep education regulators informed of courses opened and software applied.

Intelligent Technology Assisting Traditional Culture Inheritance

虚拟实验教学 Virtual Laboratory Teaching

实拍视频
Experiment Video

3D/VR仿真测试
3D/VR Testing

3D/VR交互课件
3D/VR Courseware

5G

NCET VLAB
· 打造实验教学新模式 ·
Develop a new experimental teaching model.

Virtual Experimental Teaching in Primary and Secondary Schools

Exhibition of High-quality Digital Lectures in Primary and Secondary Schools

Classroom teaching is the main venue of education. In recent years, with the rapid pace of digitalization, how to deepen the integration of information technology and education, especially how to fully apply digitalization in classroom teaching, has become a key measure of the effectiveness of digitalization in education. The following eight model courses highlight effective classroom digitalization in primary and secondary education in recent years. They follow the laws of education and talent development to cultivate students' core competence. Empowered by digital information and the Internet, the courses fully unleash the potential of digital settings such as multimedia classroom, and various digital platforms, resources, tools, and technologies. Timely feedback of teaching data helps turn classroom teaching to an inspirational, interactive, curiosity-driven, collaborative, and open-ended journey that stresses experience and sharing. By empowering interaction, galvanizing interests, and unlocking creativity, these courses substantially improve classroom effectiveness, personalize teaching, and ensure learning opportunities for all.

1. Art Class for second grade

This art class utilizes the digital teaching

environment and technologies to provide a dynamic course presentation, which stimulates the study interests of the students. Together with collecting and analyzing timely the assignments of the students, the class is able to understand the learning situation of the students, and thus improve the effect of classroom teaching. Digital technologies are properly used throughout playing games, raising questions and showing model pictures during all teaching sectors, where the students could experience and explore the learning base on their own observations and attempts. By applying artistic shapes to numbers, it enhances the aesthetic perception on the part of the students. In teaching, we will make art connect with numbers in daily life to raise students' aesthetic interest and ability, in order to promote their comprehensive accomplishment.

2. English Class for sixth graders

"Career Experience Day for Middle School Students" provides an opportunity for students of the class to discuss about the career they are willing to experience and write an application for the job. Thanks to the digital environment provided by the "smart classroom", we are able to stimulate students' learning interest through various interactive sectors on the learning interactive platform. For instance, after a crash

course on occupational vocabulary, students can have their listening comprehension independently tested through card games, answering multiple choice questions, True or False questions, graphic matches and other interactive methods. The effectiveness of classroom teaching has been greatly improved by choosing relative vocabulary pairs, uploading learning screenshots, making interactive communication and real-time voting for the feedback of the learning effect.

3. Physics Q&A Class for ninth graders

By collecting questions from all learners and recreating the situation where the questions arise, this class of physics adapts to students' cognitive characteristics and learning habits so as to better meet the needs of the students. Teachers could answer and explain the questions online at the learning platform. The activity consist of three parts, namely, the video of AI Simulated live interpretation, the online teachers and students' face-to-face Q&A part and the comment part.

4. Math Class of ninth graders

By integrating mathematics, sports, biology and other interdisciplinary knowledge, this Math class is able to deepen students' understanding of statistics and function knowledge. The students' inquiry abilities are greatly promoted thanks to the digital technology, innovative teaching mode and optimized teaching

organization. Our students can use smart watches to monitor heart rate, Excel application to work with data, GeoGebra to optimize model, etc., which help them learn statistics and improve their logical analysis abilities. During the process of cooperation and exchange, practical exploration, and critical thinking, this class can also cultivates students' ability to coordinate and analyse, to solve problems by integrating multi-disciplinary knowledge, and to develop a positive and optimistic attitude towards life.

5. Physics Class of second graders in Senior High Schools

The class introduces research questions from the "black tea diffusion phenomenon" in life. It overcomes the time limitation of physics experiments through high-speed playback of videos, which triggers students to explore the microscopic essence of the diffusion phenomenon, so as to reveal the "Brownian motion". In exploring the microscopic nature of "Brownian motion", the network technology transcends the boundary of the lab and the classroom and is able to visualize the abstract concepts for the class. Students can acquire knowledge by sharing and cooperating with each other, and understand the physical laws behind phenomena during the process.

6. Chinese Class of second graders

This Chinese class is conducted under the digital smart classroom environment with a dual-teacher team mode, which allows students from two areas that are more than 1000 kilometers apart to learn and communicate in the same classroom. This class also makes up for the shortage of teachers in ethnic minority areas. The teachers of the class will analyse the students' learning conditions precisely by the reports and adjust his or her teaching methods accordingly. We adopt the teaching method of "audio literacy" with the main structure of "listening, reading, story telling, and Chinese character recognition". In the process of frequent interaction between teachers and students, the latter can learn Chinese characters efficiently, understand traditional culture, and build up the cultural confidence in their minds. Throughout the teaching process, the class properly uses digital technology to improve the classroom teaching effect.

7. Cross-school Online Joint Teaching & Research

Cross-school Online Joint Teaching & Research is a new format of ongoing cross-school, cross-regional teaching & research via model lessons. The joint teaching & research focuses on solving critical problems in teaching. It progresses steadily, taking advantage of the expertise of the researchers, technical platforms that support in-depth interaction, fellow double-position teachers who show up regularly, explicit topics, and clear steps. A mix of smart tools,

including collaborative document editing, WJX (an online questionnaire platform), and electronic whiteboards are utilized to enable online grouped learning, writing on the same screen, and data analysis. This effectively breaks the barriers of time and space and allows high-quality resource sharing and the collaborative professional growth of teachers.

8. Online and offline Hybrid Teaching

Shanghai has formed three modes of hybrid teaching powered by the new generation of information technology and the digital transformation of education: the situational teaching mode featuring real-time synchronization of remote and in-person instruction, the precision teaching mode featuring data-driven intelligent push, and the personalized teaching mode featuring of after-school service and reputable teacher tutoring. To achieve that, Shanghai has taken the path of integrated innovation and development and focused on technology-empowered teaching, precise data support, flexible application of resources, improvement of competency of teachers and students alike, successfully facilitating the reform and reshaping of classroom teaching mode, and realizing teaching innovation and reduced burden and increased efficiency through exploration of hybrid teaching integrating in-person and online instruction with training and seminars, live demonstrations, experience exchange, research summaries, etc.

Introduction to WDEA

Vision

Looking to 2030 and beyond, WDEA is committed to creating synergies for education transformation, establishing a global digital education partnership, seeking to use emerging technologies to optimize digital education solutions, building a Smart Education ecosystem, and promoting more inclusive, equitable, and high-quality development of education.

Mission

1. To connect educational technology organizations for disseminating generic policies and innovative strategies at national, regional, and school levels toward achieving SDG 4 targets.
2. To promote state-of-art technologies, practical experiences, and best practices to support researchers, teachers, and technicians for digital education transformation.
3. To showcase and leverage China's experience in digital education and digital transformation of education that is open, inclusive and resilient, and contribute Chinese solution and wisdom to the world based on inclusive cooperation, mutual learning, joint building and sharing among member countries.

WDEA Activities

1. WDEA will hold regular meetings and publish relevant achievements and annual reports. WDEA will also share with Alliance members and the general public the development of digital education at the national, regional, and school levels as well as innovative concepts and best practices of digital education.
2. WDEA will develop education assessment and monitoring toolkits to support Alliance members with IT solutions in Smart Education.
3. WDEA will carry out flagship projects for international cooperation, cooperate with WDEA members to build public platforms, provide public goods and services, and share open educational resources and technical solutions.
4. Through the digital training center, WDEA will collaborate with WDEA members on digital education training projects for teachers and technicians.

Benefits and Obligations of WDEA Members

WDEA will provide all members with resources and cutting-edge information on digital education and research, in addition to training in various forms and contents. WDEA will also offer tools for monitoring and evaluating progress in Smart Education and advocate for experience and resources sharing

among its members.

WDEA members shall identify with the values and vision of WDEA, understand its objectives and mission, and have relevant knowledge and capabilities. WDEA members are also expected to have experience in digital education and be able to initiate and provide guidance to a range of programmes, in forms of consultation, research projects and plans, technology development and diffusion, and teaching and learning involvements.

WDEA Membership

WDEA members include, but are not limited to, the following categories:

1. Educational entities: including K-12 Schools, technical and vocational education and training (TVET) schools/centers, universities, and colleges. WDEA would offer Open Educational Resources (OERs), Open Educational Practices (OEPs), teacher professional development, as well as training for soft skills (e.g., leadership) and hard skills (e.g., technical). WDEA would also serve to offer a sense of community and promote lifelong learning opportunities.

Meanwhile, educational entities are requested to actively collaborate, participate in research projects, and share their experiences in relation to educational technology tools.

2. Organizations and research institutes:

including intergovernmental organizations, international organizations, and think tanks.

WDEA would share its research findings and resources, including materials from research projects and its experience in research funds applications. WDEA would also support with tools to monitor and evaluate Smart Education progress. Meanwhile, organizations and research institutes are requested to develop a partnership to leverage the Transforming Education Summit Digital Learning Action Track by sharing their experiences, collaborating on research projects, and providing research findings and resources.

3. Enterprises: including technology companies and educational technology companies. WDEA would provide research and development innovations and feasibility studies towards developing new services or products and improving existing ones. Meanwhile, WDEA requests enterprises to provide open use of their EdTech applications, opportunities of using their tools for research, and assistance in terms of resources, funds, networks and experiences.

References

- 1.China Education News. (2023, February 14). Empowering High Quality Development of Basic Education with Digitalization.
- 2.China Education News. (2023, February 15). Digital empowerment of a new ecosystem for vocational education.
- 3.China Education News. (2023, February 15). Digital transformation drives innovation and development in higher education.
- 4.China Education News. (2023, February 15). Teachers should use their innovative capabilities to drive change.
- 5.China Education News. (2023, February 15). The digital transformation of vocational education will contribute to achieving the 2030 Sustainable Development Goals (SDGs).
- 6.China News Net. (2023, February 15). Experts and scholars explore pathways for the digital transformation of vocational education.
- 7.China Youth Daily. (2023, February 27). Digital empowerment of vocational education.
- 8.Learningpower. (2023, February 17). Higher Education Parallel Forum at the World Digital Education Conference: Digital Transformation Will Reshape the Approach to Talent Development in Higher Education.
- 9.Ministry of Education. (2023). World Digital Education Conference Digital Transformation and Future of Education.
- 10.Ministry of Education. (2023). WDEC announces initiative to establish World Digital Education Alliance.
- 11.Ministry of Education. (2023, February 13). CNAES releases smart education-themed bluebook and development index report.
- 12.Ministry of Education. (2023, February 13). Minister Huai Jinpeng's keynote speech at the 2023 World Digital Education Conference: Deepening Digital Transformation, Building A Bright Future of Education.

- 13.Ministry of Education. (2023, February 13). MOE renews agreements on digital education with big telecom companies.
- 14.Ministry of Education. (2023, February 13). Chinese vice premier urges efforts to launch more high-quality digital education services, products.
- 15.Ministry of Education. (2023, February 14). Promoting Innovative Development of Higher Education with Digital Transformation Parallel Forum of the World Digital Education Conference was successfully held.
- 16.Ministry of Education. (2023, February 14). The Forum on Digital Transformation and Development of Technological and Vocational Education and Training was held in Beijing.
- 17.Ministry of Education. (2023, February 14). The Forum on Empowering High Quality Development of Basic Education with Digitalization was held in Beijing.
- 18.The Beijing News. (2023, February 15). How Can Digitalization Empower High-Quality Development of Basic Education? Experts and Scholars Share Practical Explorations and Insights.
- 19.World Digital Education Conference. (2023). About WDEC.
- 20.World Digital Education Conference. (2023). Call for Global Partnership on Digital Education Development.
- 21.World Digital Education Conference. (2023). Exhibition of Applied Digital Education Facilities.
- 22.World Digital Education Conference. (2023). Exhibition of High-quality Digital Lectures in Primary and Secondary Schools.
- 23.World Digital Education Conference. (2023). Standards for the Smart Education Platform.
- 24.World Digital Education Conference. (2023). The Initiative of Establishing World Digital Education Alliance.



世界数字教育联盟
WORLD DIGITAL EDUCATION
ALLIANCE

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世界数字教育联盟

**WORLD DIGITAL EDUCATION
ALLIANCE**

The World Digital Education Alliance is committed to establishing a global community in digital education. It aims to encompass the enhancement of dialogues and exchanges, the cultivation of practical collaborations, the establishment of a sustainable international cooperation mechanism, and the facilitation of the high-quality progression of digital transformation in education.