Jing Shi Wisdom & Learning

Summer 2019 ISSUE No.10

BNU Standard Serial Number: BNU-044

Be in awe of education, for it shapes the soul of human,
Be cautious to technologies, for its adoption has to be effective,
Be entangled with 'wisdom', for uncertainty tends to be increasing,
Be serious to academics, for academic research needs evidence.

-Dean Ronghuai Huang, delivered at the closing ceremony of the Second US-China Smart Education Conference on March 20, 2017



Smart Learning Institute
WeChat QR Code

 $\textbf{Email:} \ smartlearning@bnu.edu.cn$

Phone: 8610-58807219 **Website:** sli.bnu.edu.cn

Address: 12F, Block A, Jingshi Technology

Building, No. 12 Xueyuan South Road, Haidian District, Beijing, China

Postcode: 100082

Email: chengzhenzhen@101.com

Phone: 86591-88066792 **Website:** sli.bnu.edu.cn

Address: 581 Building, 58 Hot Spring

Road, Fuzhou City

Postcode: 350013





Smart Learning Institute of Beijing Normal University

The Smart Learning Institute (SLI) of Beijing Normal University is a comprehensive experimental platform involving scientific research, technology development and instructional teaching, which is jointly established by Beijing Normal University and a global educational technology company, Elernity (a subsidiary of NetDragon). SLI focuses on finding learning patterns powered by ICT, creating smart learning environment and platforms for lifelong learning, as well as supporting diversified, personalized and differential learning needs for digital learners.

- Focusing on the methods of design, optimization and evaluation for learning environment as well as developing the key technologies for learning environment engineering aims at providing a widelyspread solution for promoting smart learning.
- Constructing the theory of smart learning and exploring the approaches of integrating ICT with Education aims at offering an international exchange and cooperation platform to smart learning research.
- Studying on the characteristics and patterns of schooling, family education, community education, enterprise learning and public learning aims at providing support for constructing a learningoriented society and smart city.
- Expanding the experimental areas and schools for smart learning as well as exploring the characteristics of ICT-based instruction and the models of future schools aims at promoting educational transformation and innovation.



Co-Dean Dejian LIU

Chairman of the Board, Executive Director of NETDRAGON, The Special Allowance Expert in State Council, Co-Dean of Smart Learning Institute of Beijing Normal University, Chair Professor at the College of Education of Harvard University.



Co-Dean Ronghuai HUANG

Co-Dean of Smart Learning Institute of Beijing Normal University, Director of UNESCO International Research and Training Centre for Rural Education, Director of National Engineering Laboratory for Cyberlearning and Intelligent Technology.

Open Series in Springer

- Lecture Note in Educational Technology Series Editors: Huang, R., Kinshuk, Jemni, M., Chen, N.-S., & Spector, J.M.
- Smart Computing and Intelligence Series Editors: Huang, R., Kinshuk, & Dede, C.
- New Frontiers of Educational Research Series Editors: Zhongying Shi, Ronghuai Huang, Zuoyu Zhou.







Springer's Journals

- Smart Learning Environment (The Official Journal of IASLE) Editors: Huang, R., Kinshuk, & Soloway, E.
- Journal of Computing in Education (The Official Journal of GCSCE) Editors: Huang, R., Hwang, G.-J., Kong, S.-C., & Chen, W.











Tel: +86-010-5880-7264

Email: smartlearning@bnu.edu.cn URL: http://sli.bnu.edu.cn/en/

Address: 12F, Block A, Jingshi Technology Building, No. 12 Xueyuan South Road, 100082

Design and Learning Laboratory

Study on the features and patterns of design, computational and innovative thinking for youth; Develop courses and books about design methodology, computational thinking and ICT; Build cooperative platform with world-renowned universities, enterprises and institutes for design and innovation.







d.School of Stanford University

Smart City and Learning Environment Laboratory

(2019.01)



Learning Environments in China 2015 (2015.09.20)



Learning Environments in Chinese Cities



2016 Report of the Cyberlearning Products Development Index in China

Study on the typical learning fields in smart cities and learning societies; Create database of smart learning environment; Publish serial reports on learning environment as well as service industry and products of cyberlearning.

Open Educational Resources (OER) Laboratory

Study on the solution of OER under its impact to the developing countries: Construct the OER community for The Belt & Road countries; Publish reports on the trends of ICT in education.



The Third US-China Smart Education Conference (2018.03)



Series of Horizon At a Glance: Education Report in China Development in the Belt



High-end Forum (2017.05.25)



in Fuquan, Guizhou Province



ICT-based Instruction Center

Explore the methodology of integrating ICT into education with large-scale experiments; Study on the solutions of smart classroom and smart campus; Provide the services for transferring education through the bridge of the theory and practice.

Educational Robotics Center

Study on the scenarios of robotics in education and the trend of artificial intelligence; Develop the courses for robotic education and STEAM education for K-12 schools. Design educational robotic for various learning fields, such as school, family, etc.



2016 Educational Robotics White Paper: The Global Development



The Next Big Thing: Global Development Status and Trends in Educational Robotics



Prototype of Educational Robotics

Summer 2019 ISSUE NO.10

Chief Editor

Haijun Zeng

Associate Editors

Tingwen Chang Hongyan Kuai

Editorial Board Members

Yongzhong Wang

Yanli Jiao

Zhiying Nian

Zhong Ren

Jingjing Jin

Chunyan Wu

Qian Cheng



Any feedback or suggestions,

please:

Email: smartlearning@bnu.edu.cn **Phone**: (8610)58807219

Address: 12F, Block A, Jingshi Technology Building, No. 12 Xueyuan South Road, Haidian District, Beijing,

Postcode: 100082

Website: http://sli.bnu.edu.cn/

Contents

Summer 2019

Features 02-05

- The Launching Conference of the Establishment of Smart Education Demonstration Area was Held by Department of Science and Technology, Ministry of Education
- The Concluding Conference: Strategic Research on Smart Education Scheme in Xiong' an New Area





Important Events 04–15

- Technical Working Committee of Virtual Reality Experiment Teaching Innovation Alliance was
- in Qingyang: Serial Events on Smart Campus
- Academic Salon on 2019 Asian Regional Forum on Rural Education, Cultural Diversity and Sustainable Development
- SLIBNU Celebrated the Twentieth Anniversary of



Cooperation & Communication 16-17

18-19

Project Status

20-21



Exclusive Interview 22-23

Adam Tairab



Joint Innovation Project of Basic Education Improvement

Elernity Powered National VR Competition

NetDragon

The Sixth and Seventh "Smart Education" Webinars

02 | Features

Wisdom & Learning Summer 2019 ISSUE NO.10

The Launching Conference of the Establishment of Smart Education Demonstration Area was Held by the Department of Science and Technology, Ministry of Education.

in Xiong' an New Area

Introduction

On June 28, the launching conference of the establishment of Smart Education Demonstration Area was held in Xiong'an New Area by Ministry of Education's Department of Science and Technology (MOEDST), sponsored by SLIBNU. This conference contributed to a better guidance to build the demonstration area, ensuring solid and proper progress. The participants included Chaozi Lei, Director of MOEDST, Shouqing Fu, Vice Director of the management committee, as well as the expert panel and representatives of Smart Education Demonstration Area. The conference was hosted by Nan Li, Vice Director of MOEDST.

MOE has established an expert panel for Smart Education Demonstration Area project. The expert panel will provide full targeted guidance regularly, offer counsel and create connections. Ronghuai Huang, Dean of SLIBNU, has been designated as an expert of the panel, and the secretariat is set in National Engineering Lab for Cyberlearning Intelligent Technology (CIT).

The establishing areas of this project reported its implementation scheme, and the expert panel has offered instructions to all establishing areas and cultivating areas. As a member of the expert panel, Dean Huang proposed that Smart Education Demonstration Area should be established in a well-targeted, pragmatic and far-sighted way with prominent features. All the areas should carry out feasible analysis and risk assessment, taking full advantage of research institutions like local normal universities to improve themselves.



Leadership and Experts in the Conference



Zhuzhu Wang, Director of National Center for Educational Technology (NCET)



Features | 03

Ronghuai Huang, Dean of SLI; Director of NEL4CIT



Di Wu, Professor of Huazhong University of Science and Technology (HUST)



Zhang Xiong, Professor of Beihang University



Experts in the Conference



04 | Features

Wisdom & Learning Summer 2019 ISSUE NO.10

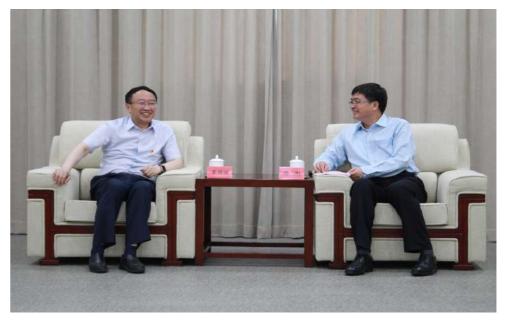
The Concluding Conference: Strategic Research on Smart Education Scheme in Xiong' an New Area

On June 27, MOEDST held the concluding conference of strategic research on Smart Education Scheme in Xiong'an New Area, and hosted a seminar for experts on development strategies for the project. This project was carried out by SLIBNU, entrusted by MOE. The participating experts and professionals in Jing-Jin-Ji Region were over 60, including Gang Chen, Secretary of Working Committee of the Party of Xiong'an New Area; Chaozi Lei, Director of MOEDST; Jianping Wu, Academician of Chinese Academy of Engineering (CAE); Fanghua Hao, Vice President of BNU; Zhiguang Shan, Director of Department of Informatization and Industry Development, the State Information Center, and Zongkai Yang, President of Xidian University. The conference was hosted by Nan Li, Deputy Director of MOEDST.



Summary Report by Dean Huang

Features | 05



The Talk between Chaozi Lei (Left), Director of MOEDST and Gang Chen (Right), Secretary of Working Committee of the Party, Director of the management committee of Xiong'an New Area





The Talk between Leadership and Experts

Wisdom & Learning

Important Events | 07

Technical Working Committee of Virtual Reality Experiment Teaching Innovation Alliance

On June 11th, Conference on the Construction and Sharing of China Virtual Reality Experiment Teaching Innovation Project was held in Beijing. The conference discussed how to promote the deep integration of VR and teaching, and announced the establishment of Technical Working Committee of Virtual Reality Experiment Teaching Innovation Alliance. The first director of the committee is Ronghuai Hunag, Director of SLIBNU, as well as NEL4CIT, where the committee secretariat is located. The guests of the conference were over 400, including Qingping Zhao, Academician of CAE; Yi Song, First-grade Inspector in Department of Higher Education, Ministry of Education; Secretary Kaisheng Huang and Executive Secretary Hongyu Wang of Virtual Reality Experiment Teaching Innovation Alliance; Aimin Hao, Professor of Beihang University and other leadership in all subjects and 180 universities and experts from Technical Working Committee.



Conference View



Committee Meeting



Aimin Hao, Professor of Beihang University, Vice Director of State Key Laboratory of Virtual Reality Technology and Systems



(BIT), Director of Computer Virtual Reality Experiment Teaching Center, BIT



Bing Han, Consultant of the Sharing Platform of National Virtual Reality Experimental Teaching Project, Higher **Education Press**



Fuan Wen, Vice Director of Beijing University of Posts and Telecommunications (BUPT)



Wenjiang Yu, Secretary of Virtual Reality Experiment Teaching Innovation Alliance



Xin Zhang, Chief Development Officer of NetDragon Websoft, Inc

08 | Important Events

Summer 2019 ISSUE NO.10

"Design for Education" Seminar was Successfully Held

Wisdom & Learning

in Shahe Campus, BNU

Within the context of the volatile landscape worldwide and the games between big powers, SLIBNU and Beijing Design Society held "Design for Education" Seminar in the morning of May 14. This seminar imagined the modes of society, industry and education in 2035, and explored how design for education can extend from the fields of "art design" and "industrial design" to basic education and daily life.

The seminar was held in NEL4CIT in Shahe Campus of BNU. The participants included Jingbin Zhang, Vice Director of Faculty of Education, BNU; Ronghuai Huang, Dean of SLIBNU; Weizu Song, Standing Committee and Deputy Secretary-General of Beijing Political Consultative Conference and Founder of Beijing Design Society; Wenjun Hou, Vice Director of School of Digital Media & Design Arts, Beijing University of Posts and Telecommunications (BUPT) and experts from universities like Academy of Arts & Design, Tsinghua University, Central Academy of Fine Art, North China University of Technology (NVUT), Beijing University of Chemical Technology, as well as from the industries like Baidu, Lenovo, ROOBO and HTC. The guests discussed on various topics such as what design is, what to teach, how to learn, how to teach, how to assess, what "smart" is education and how to design "futuristic" education.



Important Events | 09



Dagong Chen, Associate Professor of Beijing Institute Of Fashion Technology



Peng Pan, Director of Design of Urban Design and Innovative Institute, Central Academy of Fine Arts



Dongming Ma, Vice Director of Product Design, Beijing University Of Chemical Technology



Guijing Huang, General Manager of Baidu Al Studio



Yang Liu, Head of TAL&toB



Qing Shao, Senior Manager of School-enterprise Cooperation, Lenovo

Joint Innovation Project of Basic Education Improvement in Qingyang: Serial Events on Smart Campus

Wisdom & Learning

In order to support the development of basic education in the old revolutionary base Qingyang, Gansu Province, and promote the construction and application of ICT in education, SLIBNU has undertaken the project of smart campus construction in "Joint Innovation Project of Basic Education Improvement in Qingyang", supported by BNU. The project will last for three years, and now has entered the sixth semester.

From April to June, the project team organized the training of "Smart Campus Construction, Application and Innovation in the Era of AI" in Chongqing with Directors of Education Bureaus of Qingyang and the districts under its jurisdiction, as well as the presidents of relative schools. The project team gave instructions to the research papers on "Integration and Innovation of IT and Education", voting the best papers among them, and held a seminar on "Innovation and Reform of Classroom Teaching in the New Era".



The Team Led by Kewang Han , Vice Director of Qingyang Education $\mbox{\sc Bureau}$



Part of the Teachers Participating in the Seminar



The Exchange between Learners in ShurenJingrui Primary School, Chongqing Province



Learners in the Expert Seminar on "Al Education and Smart Future"



Learners were listening to the instructions from experts and revising their papers.



The teachers won the first prize for their research papers.



Fei Liu, Principal of Fangcaodi International School, was giving a presentation on "The Localization Construction of National Curriculums"



Zhenguo Zhang, Principal of Qingqing Campus, Hu Jia Lou Central Primary School, was giving presentation on "Reform Curriculums and Cultivate Future Talents"

Development

Wisdom & Learning

The Sixth and Seventh "Smart Education" Webinars

The academic salon on 2019 Asian Regional Forum on Rural Education, Cultural Diversity and Sustainable Development is one of the serial events of Dialogue of Asian Civilizations. The salon was held in the morning of May 16th in Yingdong Academic Hall, BNU, sponsored by BNU and UNESCO International Rural Education Research and Training Center. In the salon, Dean Ronghuai Huang discussed in depth with famous international education experts on Asian rural education, cultural diversity and sustainable development. More than 100 representatives participated in this event, including Chinese and overseas students in BNU, researchers and professionals of rural education from all sectors of society.

Academic Salon on 2019 Asian Regional Forum on

Rural Education, Cultural Diversity and Sustainable



Academic Salon



Experts Symposium

In response to Sustainable Development Goal 4 (SDG4) proposed by UNESCO, China's 13th Five-Year Plan for ICT in Education, as well as ICT in Education 2.0 in "internet+" era, SLIBNU held the Sixth and Seventh "Smart Education" Webinars in the mid of April and June respectively. The webinars invited more than 30 experts from the US, Canada, Germany, Greek, Serbia, South Africa, Romania, and Argentine. The webinars focused on emerging topics like Open Educational Resources (OER), MOOCs, educational games in universities and from all aspects including the theories, strategies, projects and cases, interacting in depth with audience from various countries. This event has attracted 600 people from around 20 countries such as the US, the UK, Russia, Greek, Serbia, South Africa and Mongolia.



Discussion with Experts



Exchange on the Webinar

14 | Important Events Wisdom & Learning

Elernity Powered National VR Competition

From June 10-12, 2019 National Vocational Students Skills Competition on VR Production and Application (National VR Competition for short) was held in Fuzhou, sponsored by 36 national departments like MOE, the Education Department of Fujian Province, Fuzhou Government, and Fuzhou Municipal Bureau of Education, with technical support from Elernity. There were 82 participating teams from 33 provinces and municipalities with a total of 246 competitors, creating unprecedentedly warm atmosphere.

It is worth mentioning that it was the first time that Elernity had supported Secondary Vocational Education Group in National VR Competition. In the past three years, Elernity has been an important supporter of Higher Vocational Education Group, providing VR equipment and technical training for competitors, and contributing to the smooth progress of the competition. Elernity enabled competitors to use the means with emerging science and technology, stimulated innovation and provided vocational education with excellent innovative entries.



Publicity of 2019 National Vocational Students Skills Competition (Secondary Vocational Education Group)



Secondary Vocational Education Group in 2019 National Vocational Students Skills Competition

Summer 2019 ISSUE NO.10 Important Events | 15

SLIBNU Celebrated the 20th Anniversary of NetDragon



On May 18, SLIBNU held a series of events to celebrate the 20th Anniversary of NetDragon. Tingwen Chang, assistant to the Dean of SLIBNU and Yongzhong Wang, Director of ICT-based Instruction Centre attended the 20th Anniversary Gala in Fuzhou.



Dejian Liu, Dean of SLI and Chairman of NetDragon, was delivering a speech at the 20th Anniversary Gala.



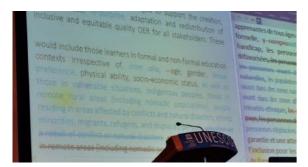


An Acrostic by SLIBNU in the Celebration of the 20th Anniversary of NetDragon

Cooperation& Communication



Dean Huang attended the Third AI + Adaptive Education Global Summit and delivered a speech. (May 24, 2019)



Dean Huang attended UNESCO Conference and the revision of draft recommendations for OER. (May 27, 2019)



Dean Huang attended the 5G Smart Education Cooperation Alliance Press Conference. (April 29, 2019)



2019 Virtual Reality Experiment Teaching Project Construction Promotion Conference (June 21, 2019)



Wisdom & Learning

Dean Huang attended The Third International Conference on Computational Thinking Education 2019 cum Coding Fair and shard research achievements. (June 13, 2019)



Dean Huang attended the 2019 Annual Conference of China Educational Technology Association (CETA) and gave a report. (April 9, 2019)



Dean Huang attended Huawei Global ICT in Education Summit. (April 10, 2019)



Dean Huang attended the 32nd ISO/IEC JTC1/SC36 Plenary and WGs Meeting and Open Forum of ISO ISO/IEC JTC1/SC36. (June 26, 2019)



Prof. Worsak Kanok-Nukulchail, former President of Asian Institute of Technology, and Saratchai Ongprasert, Vice President of TEAM Group of Qin State, visited SLIBNU. (April 25, 2019)



Leadership of MOE visited SLIBNU. (April 19, 2019)



Leadership of School of Science and Technology, SRM University, visited SLIBNU. (May 10, 2019)



Leadership of Yunnan Normal University visited SLIBNU. (May 13, 2019)



Leadership of State Grid Corporation of China visited SLIBNU. (April 2, 2019)



Leadership of Guangxi Normal University visited SLIBNU. (May 10, 2019)



Leadership of Hunan Normal University visited SLIBNU. (May 13, 2019)



(May 22, 2019)

Project Status in 2019

Trends of SLIBNU's Projects

Smart Education Planning Project in Wuhou District, Chengdu

On May 14, a delegation of the Education Bureau of Wuhou District, Chengdu, visited SLIBNU. We discussed the cooperation on regional smart education projects, exchanged our directions, key projects, paths and future cooperation details for its construction and development. SLIBNU will provide advisory services for education development of Wuhou district from the aspects of "basic education reform and development" "teacher training" "education modernization 2035" and "regional smart education construction"



Delegation of the Education Bureau of Wuhou District, Chengdu

By Yongzhong Wang

2019 BNU Summer Training Program for The Belt & Road Countries

This program is dedicated to training high-level talents and developing advantageous subjects for The Belt and Road countries. It aims to attract more foreign talents to study and exchange in China, help them get to know Chinese culture better, and at the same time deepen Chinese teachers and students' s understanding of The Belt and Road countries. That is how the program will promote research cooperation between China and The Belt and Road countries. This program is supported by the Beijing municipal government. At present, it has sent the enrollment letters to more than 60 Belt and Road countries, and has confirmed the participation of 27 students.

By Tingwen Chang

2019 Educational Robots White Paper: The Global Development

Educational Robots White Paper 2019: The Global Development plans to provide a report on academic achievement, current situation and trend as well as educational application in the past three years for academia, education and industry. At present, the digest version of this book in both Chinese and English has been completed. It is scheduled to be officially released at the World Robotics Conference in August this year. At the same time, we plan to write a series of papers to provoke the discussion of educational robots in academia.

By Zhong Ren



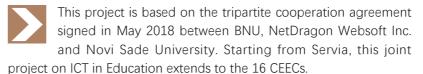
Summer 2019 ISSUE NO.10 Books & Articles

"Design and Learning" Course

From May to June, the project team members have planned and prepared for 2019 "Design and Learning" course: they conducted survey and competitive analysis of top design institutes and design thinking courses in China for research reference; they created the DEMO of the course, as well as the PPT and documents for plan and promotion of new semester; they produced design and learning new semester course planning; they organized conferences, widely accepting the advice from more than 10 cooperative universities, including Hangzhou Normal University, East China Normal University, Shaanxi Normal University and Northwest Normal University; they also surveyed online teacher platform for the new semester, gave a live presentation and evaluation, and re-confirmed the evaluation standards of the course.

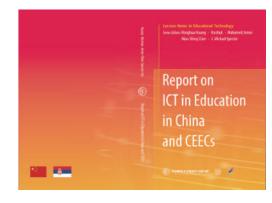
By Zhiying Nian

Virtual Laboratory for Future Education in CEECs



At present, the project team has carried out the overall planning and typographic design of Report on ICT in Education in China and CEECs, which is scheduled to be released in mid-July.





Al-promoted Language Learning Project for Teachers

The project team has studied on both technology and function, and continuously promoted the solution of the Intelligent Laboratory for Language Learning. During this period, the project team investigated in detail the cloud system of different enterprises, including the architectures of software and hardware, learned the structures of voice engine, SDK of the companies such as TEU Xunfei, CHIVOX and Singsound. They grasped the key technology of audio and video and client program, identifying the integration scheme of technical system and further research. Meanwhile, the project team sorted out the detailed functions of the five centers of



Rendering of Intelligent Assessment Center

the laboratory, including basic functions, environment (equipment, hardware, software, etc.) content, environmental requirements, and finally drafted the function design scheme. By virtue of a deep discussion, the project team has made continuous improvement in the technical and functional design schemes, laying a good foundation for the further implementation of the laboratory.

By Yanli Jiao

Progress in Patent Declaration of SLIBNU



At present, SLIBNU's three patent applications have received acceptance notice, including "an Automatic Proposition Method for Ancient Poetry Tests", "a Difficulty Assessment Method and System for Ancient Poetry Exams", and "a 3D Configuration Method and System for AR".

By Jingjing Jin

20 | Project Status Wisdom & Learning

Journal of Computers in Education ISSN 2197-9987(print version) was Included in Scopus.



Journal of Computers in Education (ISSN 2197-9987(print version)), an interdisciplinary, comprehensive and international English periodical, sponsored by BNU and published by Springer Publishing House, was included in Scopus. Officially launched in 2014, the journal was also the official journal of Global Chinese Conference of Computer in Education (GCCCE). The editors are the most well-known scholars in computer education field. The editors-in-chief included Prof. Ronghuai Huang, Dean of SLIBNU, and Guozhen Huang, Professor of National Taiwan University of Science and Technology (NTUST). The journal has published 6 volumes, 20 issues and 135 brilliant articles in online and print formats. The online papers have been downloaded 69913 times by the end of 2018.

Scopus is the largest abstract and citation database of peer-reviewed literature, owned by Elsevier, the world's largest publisher. Scopus indexes content from more than 2,2000 peer-reviewed journals and over 7 million articles from 5,000 publishers, covering science, technology, medicine, social sciences, and arts and humanities. Scopus features smart tools to track, analyse and visualise research. The authoritative world university ranking centers (e.g. QS, THE, etc.) are all applying Scopus for their production and assessment.

Journal of Computers in Education has already been included in many authoritative databases before Scopus, including Google Scholar, EBSCO Discovery Service, Emerging Sources Citation Index, OCLC, ProQuest Advanced Technologies & Aerospace Database, ProQuest SciTech Premium Collection, etc., which suggests the wide recognition both at home and abroad in terms of its academic standards and international influence.

Summer 2019 ISSUE NO.10 Books & Articles | 21

In Commemoration of the 40th Anniversary of Reform and Opening up: ICT in Education is Leading Education Reform and Development.

In the past 40 years of reform and opening up, China has made remarkable achievements, creating numerous miracles in the history of education. In Commemoration of the 40th anniversary of Reform and Opening up, the series of "The 40 Years of Education Reform in China" published by Science Press is a historical summary of China's education achievements and experiences in the past 40 years.



The 40 Years of Education Reform in China: ICT in Education Published by Science Press
Written by Ronghuai Huang, Yunwu Wang, et al.

The 40 Years of Education Reform in China: ICT in Education is designed by Dean Huang, consisting of 7 chapters which introduce the features and accomplishments from the beginning stage of computer education in 1978 to ICT in education in 2018. It points out that China's strategic scheme of ICT in Education has grown more and more scientific and precise with a giant leap in educational infrastructure and resources, as well as teachers' and students' information literacy. This Book forecasts the future of China's ICT in Education: the development of emerging technologies, such as education robots, big data, Al, Internet of Things, learning analysis technology, etc., has brought new opportunities for ICT in education in the future. While global education governance is moving towards "common interests", ICT in education in the future will better promote the inclusive development of education and providing precise services for establishing an open, flexible and comprehensive lifelong learning system.

Exclusive Interview



Adam Tairab

Ph. D. in Educational Technology, BNU

You have successfully finished your doctoral dissertation defense at BNU and obtained your doctoral degree in June. Can you share your research experience during your Ph. D. study?

Wisdom & Learning

First of all, I am very happy to have got my Ph. D. from BNU, one of the top universities in China and in the world. I studied the doctoral credit course in the first two years, and then started professional research under the guidance of Professor Huang. My research focused on technology and mobile learning in K-12 education, based on Professor Huang's smart learning theory, which has made considerable contributions to education development and set an example for developing countries. I also published four related research papers and journal papers at the international conferences in the US, Europe and China.

My Ph.D. dissertation is entitled "General Framework of Integrating ICT in K-12 Classroom: A Case Study of Sudan". More specifically, its goal is to verify this framework built on the basis of literature review in the context of Sudan. In order to achieve these goals, this study proposes the following main questions: 1) What may affect the integration of ICT in K-12 classroom; 2) What may affect K-12 classroom, especially the integration of ICT in Sudan.

In this paper, I verified the K-12 classroom framework in Sudan through questionnaires, semi-structured interviews and observation of leadership in education field. The paper used the mixed research method, applying inferential statistics and descriptive statistics to analyze quantitative data. Thematic method was utilized to analyze the qualitative data obtained from observation and interviews, with various topics emerging in this process; while qualitative analysis was helpful to polish the results of quantitative analysis. The participants' recognition of demographic cognition was analyzed from the aspects of frequencies and means, while regression and correlation coefficient analysis were used to determine whether the teachers' concepts about demograph, technology and teaching, as well as ICT infrastructure, would affect how ICT was used in the classroom. The analysis is to verify the framework in the K-12 education in Sudan.

The research found out it that ICT in education in Sudan is still in its infancy. Therefore, it is necessary to focus on filling the gaps in the research. The field research in China and Sudan shows that computers accessibility and the Internet connection are the most important factors for the development of ICT-assisted education in Sudan at this stage. Based on the results of the survey, I proposed constructive suggestions for Sudanese government to make schemes for the integration of ICT and K12 education. Obtained the attention of the Ministry of Education of Sudan, ICT training projects have been carried out to enhance the professional competence of teachers. I also hope that the international community will understand better of the current situation of Sudan's ICT in education, so as to seek more international cooperation and assistance.

During my Ph. D. Study, I exchanged and cooperated with famous experts in educational technology field from all over the world and enriched my knowledge enormously. There remains endless to learn since life is a journey for learning. Just as the saying goes, "Do not stop learning, because life will not stop teaching".

You come from as far away as the Republic of Sudan. Could you briefly introduce the characteristics and distinctions of China and Sudan in education, as well where they can learn from each other?

This question exactly reflects the population movement caused by education. I am one of the people who come to China to study. Many of my friends have travelled around the world for the same purpose. For example, some of them have been to Africa, the United States, Australia, Asia and Europe, which means that one should receive education anytime and anywhere. The structure of the education ladder is different in the education system of Sudan and China. In Sudan, for example, the education system includes 8 years of primary school, 3 years of secondary school, and then higher education. On the contrast, China's education system include 6 years in primary school and 6 years in secondary school. We can learn from each other some strategies to improve education in the future.



Adam Tairab in Dissertation Defense

For such a long time in China, especially in BNU, do you have any suggestions for the international students coming to study in China, especially to BNU?

I have spent five years in BNU, which is the most memorable time in my life with wonderful stories, cutting-edge knowledge, and new friends from different countries.

For international students who want to study in China, especially in Beijing Normal University, I strongly recommend that they study Chinese before taking degree courses. Language is the key to learning and making friends, and is especially indispensable for foreign students who want to stay in China in the future. Therefore, I hope that universities will take Chinese as a compulsory course for international students for at least one year. That will contribute to their major courses, promote the exchange between foreign students and University communities in China. and help to spread Chinese all over the world.