



Knowledge hub
-
Collection of best practices

Summary of the best practice

1. Title of the best practice (e.g. name of policy, programme, project, etc.) *

Build an "Internet + Education" demonstration plot to promote education equity and quality

2. Country or countries where the practice is implemented *

Ningxia Provincial Education Department, People's Republic of China.

3. Please select the **most relevant** Action Track(s) the best practice applies to *

- Action Track 1. Inclusive, equitable, safe, and healthy schools
- Action Track 2. Learning and skills for life, work, and sustainable development
- Action Track 3. Teachers, teaching and the teaching profession
- Action Track 4. Digital learning and transformation
- Action Track 5. Financing of education

4. Implementation lead/partner organization(s) *

Ningxia Education Information Management Center

5. Key words (5-15 words): Please add key descriptive words around aims, modalities, target groups etc. *

Internet + education, provincial smart educational service platform, smart teaching assistant, online interactive classroom, free digital learning resources

6. What makes it a best practice? *

build a provincial smart educational service platform to promote the sharing of high-quality free digital learning resources, provide online interactive classroom environment and smart teaching assistant for all teachers and students, and narrow the education gap and the digital divide between Ningxia urban and rural areas.

Description of the best practice

7. Introduction (350-400 words)

This section should ideally provide the context of, and justification for, the practice and address the following issues:

- i) Which population was affected?
- ii) What was the problem that needed to be addressed?
- iii) Which approach was taken and what objectives were achieved? *

Education is the cornerstone of national rejuvenation, and educational equity is an important basis for social equity. In 2015, the UNESCO released the Education 2030 Framework for action, which proposed to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" as the sustainable development goal of education.

Located in the west of China, Ningxia showed great regional differences which lead to the unbalanced development of education among administrative divisions, schools and between urban and rural areas. In detail, there are 741 small-scale primary and secondary schools (including teaching sites) with less than 100 students accounting for 34% of the total number of primary and secondary schools in the whole region. A structural shortage of teachers is a serious issue in those schools. Especially, there is a large shortage of teachers in music, art, science, and so on. It is not an easy thing to keep teachers for those schools. Teachers in small-scale schools cannot be retained or left. The problem of incomplete and insufficient courses in schools is becoming increasingly prominent.

In recent years, the Ningxia Educational Information Management Center has implemented the "Internet + Education" National Demonstration Plot and the "Artificial Intelligence Boosting Teacher Team Building Action" around the strategic deployment of Ningxia's educational reform and development and the full realization of educational modernization. The "Internet" was used to promote the sharing of high-quality educational resources and the improvement of educational quality, and to promote fair and high-quality education. And children in rural schools and weak schools can also receive high-quality education through information technology and realize all-round development. Ningxia's comprehensive index of basic educational informatization development in 2021 ranked the 6th in China, which is up 6 places from 2018.

Especially during the pandemic period of COVID-19, to minimize the impact, by relying on "Internet + education", the education system of Ningxia set up the air classrooms, which organized 1,100 excellent teachers, researchers, and staff, recorded 2,588 high-quality courses. opening the simultaneous broadcast channels of TV and network achieved the full coverage of "classroom in the air" and ensure that the learning materials can be delivered to every student in urban and rural areas and rivers of the region without any blind spot. In another word, this enables students schooling even when they are not at school. Ningxia is committed to construct an all-around and multi-channel comprehensive system of "Internet + education" + "classroom in the air" to create a fair and high-quality new education ecology.

8. Implementation (350-450 words)

Please describe the implementation modalities or processes, where possible in relation to:

- i) What are the main activities carried out?
- ii) When and where the activities were carried out (including the start date and whether it is ongoing)?
- iii) Who were the key implementation actors and collaborators? (civil society organizations, private sector, foundations, coalitions, networks etc.)?
- iv) What were the resources needed (budget and sources) for the implementation? *

Promoting education equity and letting high-quality educational resources benefit every child. First, improve infrastructure construction to narrow the education gap and the digital divide between urban and rural areas. Ningxia promoted infrastructure construction with integrated projects to continuously improve the basic school running conditions and basic educational capacity building of primary and secondary schools in poor areas. Second, build a resource service platform to promote the sharing of high-quality resources. Ningxia has collected a large number of excellent courses from local famous teachers and realized the rapid and inclusive application of high-quality education resources. Third, build an online interactive classroom to form an urban and rural assistance mechanism. Through the education cloud, Ningxia built a unified online interactive classroom platform in the autonomous region to promote the hand-in-hand pairing of urban teaching teachers and rural teachers.

Enhancing the ability of teachers to effectively boost the professional development of teachers. First, create an innovative base for teacher education and promote the innovative development of teacher education. Establishing an innovative base for teacher education at Ningxia University and Ningxia Normal University to explore and train teachers who can adapt to new technological challenges such as artificial intelligence. Second, implement the teachers' intelligent training activities to improve teachers' information literacy and professional level. All teachers in the region carry out online and offline hybrid training activities via the education cloud network learning space, famous teacher studios, and curriculum communities. Third, implement smart actions to help teachers in rural areas and facilitate their professional development. More than 300,000 classes have been opened which effectively alleviate the issues of the shortage of teachers in ideological politics, English, music, and physical education and so on in remote areas.

Supporting personalized learning and promoting students' comprehensive and personalized development. First, carry out an accurate evaluation based on data to realize personalized learning on a large scale. Through the "Internet + Education" platform, the comprehensive evaluation, recording, and application activities of students are widely carried out. Second, carry out innovative literacy education to promote the cultivation of students' innovative ability. Ningxia has built an innovative literacy education curriculum system based on the "Internet+". Intelligent assistants and high-quality resources greatly improved classroom efficiency and teaching pertinence.

Optimizing education governance and enhancing education governance capabilities. First, take the lead in building a provincial education cloud platform and improve the information level of education management. Comprehensive management system had effectively improving the intelligent level of school education management. Second, implement Ningxia teachers' big data construction and application actions to enhance the governance efficiency of teachers. The educational smart cockpit to provide visual and accurate data services for autonomous regions, cities and counties (districts). schools, teachers, students, parents, and other users.

9. Results – outputs and outcomes (250-350 words)

To the extent possible, please reply to the questions below:

- i) How was the practice identified as transformative? (e.g., impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities etc.);
- ii) What were the concrete results achieved with regard to outputs and outcomes?
- iii) Has an assessment of the practice been carried out? If yes, what were the results? *

First, the infrastructure of ICT for education has been significantly improved. At present, all the 3456 schools at all levels and categories are connected to the network, and 63% of the schools' network bandwidth reaches more than 100 megabytes. Schools in mountainous areas are interconnected and online teaching is unimpeded, which provides a solid foundation for promoting balanced development of education in urban and rural areas.

Second, the ability to supply and serve educational resources has been rapidly improved. At present, 90% of the teachers have been registered and 80% of the students' learning portfolios have been recorded in the education cloud of the whole region. It has access to more than 100 applications such as the "Science Network" and "teaching assistants", and provides more than 18 million teaching resources, 100,000 microlectures, and 5,000 famous teachers' lessons.

Third, teachers' ability to apply information technology has been significantly enhanced. 100% of teachers have registered in Ningxia Education Cloud and have used the "Renrentong Learning space" to conduct research using a mixed method of online and offline. In the national activity of "a teacher a lesson, a lesson a teacher", Ningxia teachers shared 350 thousand courses, sharing rate reached to 100%. Five counties (districts) and 27 schools were awarded the outstanding typical cases of the application of national education informatization by the Ministry of Education.

Fourth, the construction of the national public service system for educational resources is improving. At present, more than 600 low-performing schools (28% of the total) have been covered with the online interactive classes. Nearly 20000 online interactive classes have been carried out, which benefited to more than 50000 students and radially drove the improvement of low-performing schools' teaching quality.

Fifth, a group of typical cases of ICT in education have formed. Take The Shizuishan No.35 middle school as an example, the school boldly innovated the "Internet + Education" advancing mechanism. With the informatization environment and application innovation as the main start point, to further develop the smart campus, the school has set up 10 "Internet + Education" project demonstration teams such as "smart class", "online class" and so on.

10. Lessons learnt (300 words)

To the extent possible, please reply to the following questions:

- i) What were the key triggers for transformation?
- ii) What worked really well – what facilitated this?
- iii) What did not work – why did it not work? *

Promoting the sharing of high-quality educational resources and promoting the balanced development of high-quality education. The Internet has broken the traditional teaching time and space restrictions and expanded access to high-quality educational resources. Teachers are no longer the only source of knowledge for students. Through a screen, a computer, and a tablet, Ningxia Educational Information Management Center has realized that 1.6 million teachers and students in different regions and under different conditions can enjoy high-quality education resources from famous schools and teachers in the whole region and even the whole country, effectively solving the problems of schools in remote and weak areas having difficulty in obtaining high-quality education resources and poor classroom teaching quality. Second, the Internet's efficient speed and breadth can expand the coverage of quality educational resources and gradually narrow the digital gap among regions and schools as well as between urban and rural areas. Setting up classroom in the air and No child was left behind during the epidemic period of COVID-19. The new crown pneumonia epidemic broke out suddenly. With the support of the Ningxia Education Cloud Platform, the Department of Education relied on the Internet to quickly build an online air classroom platform, opening five columns: air classroom, famous teacher classroom, online classroom, live classroom, and psychological counseling classroom, to gather high-quality educational resources. Since the online class was launched, the average daily visits have exceeded 5 million, and the cumulative visits have exceeded 300 million. Students have submitted 100 million homework online and conducted online tests over 300,000 times. Based on the previous achievements of "Internet + education" demonstration zone construction, Ningxia Education has given satisfactory results during the epidemic period of COVID-19, allowing every child to "suspend classes without stopping learning" .

11. Conclusions (250 words)

Please describe why may this intervention be considered a “best practice”. What recommendations can be made for those intending to adopt the documented “best practice” or how can it help people working on the same issue(s)? *

First, an education data service system was built to improve the level of regional education management and decision-making. Ningxia takes the lead in building an education cloud platform in China, forming a "six unified" service system of unified planning and construction, unified data standards, unified certification services, unified management and operation, unified application services, and unified free use to promote the precision of regional education management and scientific education decision-making. Second, the project "Internet + school services" was executed to improve the informatization level of school management. Starting from the campus information portal, school management, teaching management, and teachers' professional development these four aspects, the comprehensive management system was built up in Ningxia relying on new technologies (i.e., the Internet of things, big data techniques). This realized a efficient, intelligent, and refinement management in school affairs, educational affairs, teacher and student development, which effectively improved the intelligent level of school education management. After two years of practice, the "Internet + education" demonstration polt construction in Ningxia has made some progress, which achieved the innovative integration of emerging ICT and education, teaching, and management, and promoted the overall upgrade of school teaching quality and management level. Teachers and students were provided for people-oriented, intelligent and open education services. The balanced and high-quality development of education has been effectively promoted.

These achievements provide an important reference for the nationwide promotion of education equity, improvement of education quality, and the acceleration of education modernization.

12. Further reading

Please provide a list and URLs of key reference documents for additional information on the “best practice” for those who may be interested in knowing how the results benefited the beneficiary group/s. *

<https://www.nxeduyun.com/storage/nx/public/fruitshow/index.html?ddtab=true&ddtab=true>