

The Role of Educational Technology in the Development of Basic Education for Ethnic Minorities

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“Technology will never replace great teachers, but in the hands of great teachers, it's transformational.”

—George Couros

AS a result of the influence of history, traditions and geographical environments, considerable disparities in economy, culture, and education exist between ethnic minorities and majority nationalities in many countries. To them, how to bridge the gaps between ethnic groups remains a severe challenge. Major nation-states in the world such as Britain, Australia, India, and Russia, have emphasized the importance of equalizing education for all nationalities through legislation. Basic laws and regulations have been promulgated to ensure cultural diversity, secure enrollment opportunities of ethnic minorities, and integrate minority education into the modernized mainstream education (Gu et al., 2015).

Like many other countries, China is also facing issues of uneven educational development, the most pronounced of which is the huge gap in educational levels between its developed eastern regions and western minority areas. Over 40 western ethnic minorities reside in 82 autonomous counties, 27 autonomous prefectures, and 5 autonomous regions, which take up 86.4% area of western China (Wang, 2002). In some western areas that have poor natural conditions, inconvenient transportation and backward communication, primary and secondary schools are struggling with outdated educational fa-

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cilities and shortages of high-quality educational resources, which lead to the low enrollment rate of minority children, inadequate supply of qualified teaching staff, and an incomplete basic education system.

To address the disadvantaged circumstances of basic education in western minority communities, Chinese government have implemented a series of targeted measures such as the “poverty alleviation through education”, “educational volunteers”, and “educational support” projects, to name a few. These projects have played certain roles in improving minority education but cannot eradicate the deep-rooted defects and problems in education in the impoverished western regions. The growth of government investment in ethnic minority education cannot keep pace with the increasing demands for educational funds year by year. As a consequence, many western minority schools failed to meet the nation’s standards of school facilities and educational quality (Zeng & Shi, 2010). In addition, the government lacks scientific evaluation and effective supervision over the operation of schools entitled to preferential policies, resulting in low output of investment and waste of resources.

Fortunately, the “Internet Plus” initiative provides new opportunities for transforming ethnic minority education. Inspired by the initiative, governments and educational authorities at all levels have started to change their educational concepts and prioritize the funding for IT infrastructure and facilities to utilize fifth-generation telecommunication technology, artificial intelligence, big data, and other information technologies to promote high-quality development of minority education. Most ethnic minorities inhabit grassland, desert, and high-altitude areas; geographical constraints impeded their communication with the outside world as well as the development of their education. Nonetheless, internet technologies and network connection can provide communication channels to link minority teachers and students to any places in the world so that they have the access to cutting-edge knowledge and technology as their peers in developed regions despite their relatively isolated habitations. With the help of information technology, primary and secondary schools in those economically underdeveloped areas where physical libraries have not been established can now create their digital libraries and share top-notch resources across regions and schools, allowing students anytime, anywhere access to knowledge database and autonomous planning of learning according to individual conditions. The advent of educational technology also introduced new ideas of teaching and learning methods to minority communities. Educators recognize the limitations of the traditional teacher-centered model and have begun to diversify their instructional approaches; students become more pro-active in study in the digital learning environment which makes them aware of the disadvantages of rote learning and allows them sufficient, useful information to construct their personalized knowledge system (Ma et al., 2020).

In recent years, the Ethnic Education Development Center of China’s Ministry of Education has been promoting digital education for ethnic minorities by pushing for the integration of information technology into traditional

instruction and the construction of internet-enabled high-efficiency classroom teaching. The Center places premiums on the building of the Nation's Public Educational Resource Platform. Relying on the innovative mechanism consisting of "governments' support policies, enterprises' investment and construction projects, and schools' procurement of service", it has built a big data-based platform featured by stable connectivity, high safety and reliability, low operating costs, and most importantly, useful information, which gives full play to the functions of information science and technology in collecting, storing, and processing high-quality educational resources. At the same time, educational authorities at county and district levels have increased the investment in schools' educational technology facilities, offering full coverage of network, upgrading the terminal equipment of all primary and secondary schools, and popularizing the application of digital learning space. As a result, the basic construction of smart campuses in ethnic minority regions has been achieved. In addition, the Ethnic Education Development Center has been implementing the "Internet Plus" strategy in teacher professional development by offering minority teachers training to enhance their digital literacy as well as ability to apply educational technology in teaching and imposing big data-based intervention on teaching methods, processes, and evaluation. The deepened integration of educational technology into teachers' instruction and research as well as students' learning is initiating a "classroom revolution" in minority primary and secondary schools. It not only helps improve teachers' professionalism, but also extend students' learning beyond textbooks and personalize their study in accordance with their aptitudes and interest (Jiang, Wu, & Yuan, 2014).

In this issue, *Improving Minority Education in China in the "Internet Plus" Era: A Case Study of Southwest Guizhou Autonomous Prefecture* examined the possibility of utilizing digital education to address the shortages of high-quality educational resources in remote, underdeveloped ethnic minority regions (Huang, 2022). *Digital Teaching Research Based on the Intelligent Research and Training Platform: Citing the Practice of the Chinese Teaching and Research Group of Senior Secondary School Affiliated to Xingyi Normal University for Minorities as a Case Study* elaborated on minority school teachers' practice of leveraging the nation's Intelligent Research and Training Platform to improve teaching processes and enhance instruction quality (Gong, 2022). It is hoped that they can spark more research on digital education for ethnic minorities to provide deeper insights into the practice of educational technology-powered teaching and research and to advance basic education for ethnic minorities.

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