

How Should Education in Rural Areas be Reformed?

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“Change is the end result of all true learning.”

–Leo Buscaglia

RURAL areas are the product of the development of productivity to a certain stage. Generally, rural areas are geographical areas located outside of cities and towns. The Health Resources and Services Administration of the U.S. Department of Health and Human Services defines the term “rural” as “...not including all population, housing, and territory in urban areas. Anything that is not in a city is regarded as a rural area” (HRSA, 2021). From the perspective of production methods, rural areas refer to “a place where people mainly engaged in agricultural production live together” (The Dictionary Editing Office of the Institute of Languages, Chinese Academy of Social Sciences, 2005). When productivity has not yet reached a high level of development, there are still essential differences between urban and rural areas. Affected by economic transformation and geographical location, rural economic growth has been restricted. According to United Nations statistics, in 2018, the rural population accounted for more than half of the global population, and the rural poor accounted for 79% of the worldwide poverty population; the poverty rate in rural areas was more than three times that of urban areas. Of the 2 billion people in the world who do not have basic health services, 70% live in rural areas; the ratio of energy access in rural areas is about 75%, while that in urban areas is 96% (United Nations General Assembly, 2018).

Studies have pointed out that there has been an education crisis that

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affects the country's development, and the rural population is the biggest victim of this crisis. The main reason is that cities have a significant advantage in allocating scarce educational resources; simultaneously, school education in rural areas is highly inconsistent with people's learning needs. Therefore, with the concentration of rural poverty, the gap between urban and rural education investment and teaching quality is broad and persistent. The drop-out rate, adult illiteracy, and gender differences in education in remote and rural areas are significant.

The former Director-General of UNESCO Koichiro Matsuura once pointed out that people living in remote and rural areas suffer from diseases, malnutrition, and low life expectancy to varying degrees, and education is the key to overcoming these injustices (Matsuura, 2004).

"Education for All" is a concept proposed by UNESCO at the World Education for All Conference in 1990 for the world. Its ultimate goal is to meet the basic learning needs of all children, youth, and adults. That is to "provide the people with knowledge, technology, values, and outlook on life so that they can live with self-esteem, continue to learn to improve their lives, and contribute to the country and mankind." The implementation of education for all has a profound impact on the development of rural primary and secondary education and improved the overall quality of the rural population. Literacy is the basis for improving the rural population's quality. The in-depth development of universal compulsory education is the key to transforming future agricultural laborers from physical to intellectual.

Extensive education for all has dramatically improved the rural population's quality, and the literacy rate is the most fundamental parameter for evaluating the population's education level. According to the data provided by UNESCO, in 1976, the literacy rate of the population aged 15 and over in the world was 66.91%. In 1990 this figure increased to 74.31%. Thirty years later, the literacy rate of the global population has increased to 86.47% (The World Bank, 2020). At the same time, the number of primary education for young people was growing. According to the "The Millennium Development Goals Report 2015" issued by the United Nations in 2015, the net enrollment rate of primary schools in developing regions reached 91% in 2015, increasing from 83% in 2000. The number of out-of-school primary school-age children in the world has nearly halved, and in 2015 there were approximately 57 million. Between 1990 and 2015, the global literacy rate of young people aged 15-24 rose from 83% to 91% (United Nations, 2015). These data show that compared with developing countries, developed countries have already universalized compulsory elementary education and over-universal secondary education but still attach great importance to literacy and universal education in rural areas and continue to deepen these tasks.

It is true that under the promotion of education for all, rural education in various countries of the world has developed to a certain extent, but compared with developed regions or urban areas, the quality of rural education is still worrying. In Japan, in the early stage, the quality of rural education was a long-standing and essential problem in education in rural areas, especially

in remote areas. In 1963, the Japanese Ministry of Education, Culture, Sports, Science, and Technology (MEXT) national academic survey showed that the test scores of elementary and middle schools in remote areas were lower than the national average. Taking the fifth grade of elementary school and the second grade of middle school as examples, the average score of the social subjects of the fifth grade of the elementary school in remote areas is 49.2 points, which is nearly 10 points lower than the national average score of 58.8 points. The average score in mathematics of the second grade of middle schools in remote areas is 31.3 points, which is 10 points lower than the national average score of 41.3 points (pp207) (Jiao, 1999).

In addition to the low overall quality of education, it is limited by the backwardness of curriculum content and teaching methods, insufficient funding, aging facilities, and shortage of teachers (Chen, 2004; Jiao, 1999; Xiao, 2004), teaching conditions. Furthermore scientific innovation literacy of students in remote and rural areas is even more lacking. Even after the Second World War, developed countries represented by the United States carried out several large-scale education reforms throughout the country, all centering on science education, but the effects of the reforms were not satisfactory. For example, in 2009, the results of the Scientific Achievement Assessment (PISA) of 15-year-old students from 65 countries and regions showed that the average score of American students' scientific literacy was only 487 points, which was lower than the average of 496 issues in the World Organization for Economic Cooperation and Development (OCED) countries. Moreover, the scores were far lower than students' average scores from countries and regions such as Singapore, Shanghai, and Hong Kong (562, 600, and 555 points, respectively) (OECD, 2010).

Countries actively promote rural education reforms to solve various problems in education in remote and rural areas. For example, in the United States, to improve the quality of rural education and step up efforts to improve student performance through examinations, another important focus is on rural courses. They were constructing the connection between the classroom and the development of the community through the local curriculum so that students can use the knowledge learned in the classroom to solve the practical problems of the rural community. This enriches the educational resources of students in rural areas and provides a suitable path for the improvement of students' scientific literacy.

Faced with the shortage of high-quality teachers in rural schools, both the United States and Japan have increased teachers' salaries to attract teachers or high-quality teachers to work in rural areas. According to Japan's "Remote Area Education Promotion Law," which was enacted in 1954 and amended many times after that, the Prefectures of Japan must issue additional special allowances to the faculty and staff of schools in remote areas. For example, the monthly allowance must be more than 25% of the sum of the monthly salary and maintenance law. In addition to using market measures such as raising teachers' salaries and salaries, Japan has also adopted administrative intervention measures, such as regular mobility policies. The ordi-

nary mobility policy stipulates that those who have served in a school for more than ten consecutive years and new teachers for more than six consecutive years solve overstaffing. Therefore, it is necessary to implement mobile teachers between schools and schools within the district, city, sub-district, and village. If the structure of the teaching team (professional, age, qualification, male to female ratio, etc.) is unreasonable, the adjustment of mobile teachers will be realized” (Li & Guo, 2006).

It can be seen that increasing teacher training and reforming rural education curricula have become fundamental approaches to rural education reforms in various countries. In this issue, Irby et al. (2021) set their sights on elementary school science teaching. They believed that science is an experimental subject, and its abstractness has caused many rural students to be unable to rely on existing teacher guidance and teaching materials to complete their understanding. This is related to the low level of teachers in rural areas in the United States and related to the characteristics of scientific disciplines. Based on this, the authors proposed the literacy-infused scientific intervention project. The project included teacher training and curriculum and teaching materials reform. It is believed that “integrating the teaching components of literacy and language into a subject area will produce higher achievements in the subject.” Thus, the study has enriched the research content of rural education. Furthermore, it proposed strategies to improve rural elementary school students’ scientific learning from scientific disciplines and further provided a new idea for rural education reform.

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