

Comparative Analysis of Current Situation of Education Informatization in Urban and Weak Areas in China

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Abstract: With the advent of the information age, using information technology in education has received increasing attention. The pace of education informatization is accelerating in all countries. In China, various policies and various regions are advancing the construction of education informatization to promote the realization of education fairness. In order to study the specific differences in the level of education informatization in urban areas and in weak areas (especially in rural areas), this research focused on the selection of seven schools in city and eight schools in weak areas in China as examples, from learning environment construction, information technology and subject integration, teachers development, and students development, to conduct empirical research on the regional differences in the development of education informatization.

Keywords: Education Informatization, Practice-driven research, regional comparison, information technology

1. Introduction

In China, educational informatization is defined as the universal application and promotion of information and information technology in the field and department of education and teaching (KeKang He, 2011). With the advent of the information age, the use of information technology in education has received increasing attention. Various countries, including the United States (Pont B, 2015) and Japan (Zhao X H, Feng X W, & Shi J W, 2015), have issued relevant education policies to accelerate the pace of education Informatization in their countries.

In China, in order to promote the advancement of education informatization in various regions, the Ministry of Education has issued the “13th Five-Year Plan” for education informatization (Ministry of Education in China, 2016), which explicitly states that it is necessary to “continually expand the coverage of quality education resources and prioritize the promotion of education informatization to promote education equity.” This request is particularly hoped that the status quo of education in weak regions will be changed to reduce the gap between urban and rural areas. However, studies have shown that although education informatization can indeed improve the quality of education in various disciplines in weak regions and students' comprehensive quality and promote the realization of education equity, if blindly promoting projects without identifying the root causes of problems, it may increase the digital education gap of China's urban and weak areas (KeKang He, 2011). Therefore, in order to study the specific differences in the level of education informatization in urban areas and weak areas (especially in rural areas), the study focused on the selection of seven urban schools and eight schools in weak regions in China to conduct empirical research on the development of education informatization. This research subjects include presidents, information technology director, subject teachers, and students in schools. The main method of the study includes questionnaire surveys, interviews, and field trips.

2. Regional comparison of Education Informatization Status

From the definition of education informatization, we believe that education informatization should focus on the learning environment, discipline construction, and teacher and student development.

2.1 Learning Environment Construction

In terms of hardware environment construction, there is a slight gap between urban schools and schools in weak areas. Urban schools are currently mainly targeting mobile computers, while schools in weak areas are mainly desktop computer acquisitions. This shows that urban schools are at the forefront of hardware in weaker areas. It has gradually approached the direction of purchasing mobile computers.

From the perspective of the software environment, the results of the questionnaire show that all schools have established a student status management system. In addition, all urban schools have set up teaching and management systems, and most urban schools have been equipped with administrative logistics management system (85.71%) and student growth electronic file system (71.43%). Schools in weak areas have better settings in the security management system, and there are 5 schools. Except for the home school system (50%), the security monitoring system (62.5%), and the student status management system (100%), the number of schools setting up other systems is less than half. On the whole, the software environment has been able to meet the basic teaching requirements, and urban schools have more forward-looking ideas while being exposed to more new technologies.

2.2 Information Technology and Subject Integration

In the integration process of information technology and subject teaching, according to the difference in the role of the technology in the classroom and the achievement of goals, it is divided into different application states and stages. The primary stage is mainly to understand and learn how information technology is applied in the classroom with the help of the outside world. The intermediate stage is manifested in the integration and application of the initiative in the classroom teaching. The most in-depth stage of integration is manifested in the conscious recognition, technical maturity, and apply innovation. These specifically divided into awareness stage, learning stage, understanding stage, familiarization stage, adjustment stage, and innovative application stage.

The survey results show that nearly 75% of teachers in weak areas have chosen “awareness phase”, “learning phase” or “understanding phase”, and very few teachers have chosen “adjustment phase” and “innovation application phase” (8.4 %). In cities, less than 15% of teachers choose the “knowledge phase” or “learning phase.” More than 35% of teachers choose “understand stage” or “familiarization stage”, and over 35% of teachers choose “adjustment stage” or “innovation application stage.” Informatization development in urban areas tends to start earlier, and investment in educational informatization is also relatively large. The opportunities and time for teachers to access information technology are also relatively large. As a result, teachers have gradually applied to the integration of information technology and curriculum from the initial.

2.3 Teacher Development

According to the needs of the research, this study understands the development of teachers in the process of educational information construction from value identification and training methods.

Value identification is the recognition of teachers in the application of information technology teaching to improve teaching, promote teachers' professional development, and improve students' ability. The value recognition of urban school teachers is higher than that of schools in weak areas (the urban school teachers' value identification index is higher than that of teachers in weak areas). The economic development of urban areas is relatively advanced. The education informatization is relatively early, so the value identification is generally higher than that of weak schools.

In addition, the level of teachers' information technology ability directly affects the rationality and effectiveness of technical operations. Therefore, it is indispensable to receive information technology training from the perspective of macro-political or micro-individual idea recognition and technical ability improvement. However, the survey results show that urban schools are more likely to receive high-end training (the proportion of urban schools and weak regional school teachers receiving state-level training is 58.75% and 34.1%, respectively). Among them, urban schools organize 77.50% of their own training, while schools in weak areas also have 77.64%. It can be seen that schools in both urban and weak areas attach great importance to the professional development of teachers.

2.4 Student Development

From the analysis of the status quo of student information literacy, the development of urban and weak areas is slightly different at present. Urban schools have higher scores in using tools, obtaining information, information generation, and information immunity, while schools in weaker regions are lagging behind urban schools, especially in generating information. However, although the mean value of the schools in the weak areas as a whole is lower than that of the urban schools, in addition to the two mean values of information and information collaboration, the gaps in other aspects are similar.

3. Summary

Drawing conclusions through the above analysis, due to the influence of education informatization time and regional economy, the performance of weak areas in these aspects is quite different from that of urban schools. The specific performance is that urban schools are more forward-looking in school environment construction. Sexuality, information technology and disciplines are more integrated. Teachers' attitudes and training are better for information technology, and the recognition of student and information literacy are higher.

It is recommended that schools in weak areas pay attention to the characteristics of their own development, and strengthen communication with each other to find a suitable educational development path for them. Of course, the amount of data in this article is limited, some of the issues are not discussed in depth, and more research will be carried out following this project.

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