Research on the Digital Competency Improvement Strategy of Rural Teachers in Ili Kazakh Autonomous Prefecture, Xinjiang

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Abstract: In recent years, under the background of accelerating the pace of digital construction, various industries have achieved significant development, and social production and living standards have been efficiently improved. Among them, the application of digital technology and equipment in education can alleviate the imbalance of educational resources to a certain extent, and can also enrich students' learning horizons and broaden their learning thinking, which is of great significance to promote students' better development and progress. It can be found that the application of information technology in education and teaching can significantly improve the quality of teaching, but due to the lack of digital competence of teachers, it is difficult to guarantee the improvement of education quality, and even breeds new problems, which will also have an adverse impact on student development. This paper focuses on the Ili Kazakh Autonomous Prefecture of Xinjiang as an example, and explores the problems, key points and improvement strategies in the development of rural teachers' digital competency, in order to provide support for the improvement of rural teachers' digital competency.

Keywords: Ili Kazakh Autonomous Prefecture, Xinjiang, rural teachers, digital competency, improvement strategy

Introduction

As a border ethnic minority area, the quality of rural teachers in Ili Kazakh Autonomous Prefecture (hereafter referred as Ili Prefecture), Xinjiang is directly related to the improvement of local education quality and sustainable development. In order to promote the balanced development of rural education, achieve the goal of fair and equitable education, and shorten the gap between urban and rural education, Xinjiang has gradually strengthened the improvement of teachers' digital competency in recent years, so as to promote the efficient improvement of rural teachers' education level and professional quality. Zhang Wenxuan pointed out in the study that the digital competency of rural teachers is difficult to meet the actual standards and requirements, and there are many problems, which cannot be solved in time will affect the quality of education.[1] In view of this, it is necessary to pay attention to the improvement of teachers' digital competency in the implementation of education work, and improve teachers' digital competency through symptomatic analysis and corresponding countermeasures, so as to provide support for the improvement of education quality in border areas. This article analyzes and discusses this topic for reference.

1. Problems in the development of digital competency of rural teachers in Ili Kazakh Autonomous Prefecture, Xinjiang

1.1 Competency standards are not uniform

Zhou Shugui, Tan Fangfang, and Chen Miao pointed out in related studies that for teachers' digital competence, *Education Informatization 2.0*, *Information Technology Application Ability Standards for Primary and Secondary School Teachers (Trial)*, *Information Technology Teaching Ability Standards for Normal Students* and other documents are mentioned, but the standards for teachers' digital competency are not mentioned in the documents, which leads to unclear goals in the follow-up teacher digital competency training, evaluation and implementation, which will also have an impact on the implementation of education optimization.[2] In other words, there is a problem of inconsistent competency standards in the development of rural teachers' digital competency in Ili Prefecture, Xinjiang, which means that different teachers, schools or educational institutions may have different requirements and evaluation criteria for rural teachers' digital competency, resulting in a lack of clear goals and guidance for rural teachers in improving and developing digital competency. And this can lead to confusion in teacher training and assessment, making it impossible for teachers to effectively measure their numerical competency levels and develop targeted improvement plans for individual gaps. At the same time, the inconsistent competency standards will also affect the overall grasp of the development of digital competency of rural teachers by education managers and decision-makers, and it is difficult to effectively promote the overall improvement and development of teachers.

1.2 Teachers' awareness of data is weak

To put it simply, data awareness refers to the cognitive tendency of teachers to integrate education and teaching into the digital environment, and it is only under the effect of data awareness that teachers can actively use data to think about teaching problems, analyze students' learning behaviors and assist teaching management, which is of great significance for improving the quality of education. However, it can be found that some rural teachers have not fully realized the importance and potential value of data in teaching, and although modern education technology has been promoted to a certain extent in rural schools, some teachers have limited ability to use data for analysis in actual teaching, which makes it difficult to give full play to the advantages of digital teaching, and will invisibly hinder students' development. In addition, there may be a lack of data resources in rural areas, and teachers may not have access to the most up-to-date and comprehensive education data, which will also limit their innovation and development in digital teaching. In addition, some teachers lack sufficient security awareness when handling students' personal information and other sensitive data, which may lead to data leakage and pose a threat to students' privacy.

1.3 Teachers' lack of data skills

Specifically, Xiao Yating, Chen Zhengwu, Lv Jiaqi et al. pointed out in their research that data skills are a necessary condition for data value mining and data application, and if you do not know how to analyze, summarize and process the massive data generated by artificial intelligence, data will only be data and will not become a representation of educational phenomena and educational problems.[3] If this problem cannot be solved, it will lead to inaccurate analysis of students' behavior, untimely feedback of educational data, and low effectiveness of data presentation, which will affect the effectiveness of digital teaching. At the same time, the lack of data skills will lead to the low data communication ability of teachers, which will lead to the inability of teachers to effectively use data to support arguments and state the significance of data, and the readability of data interpretation is poor, and it is difficult to make correct judgments based on data. If the above problems cannot be solved and dealt with in time, the effectiveness of education and teaching will be affected, so attention should be paid to the improvement and strengthening of teachers' digital competency in actual education.

2. The need to improve the digital competency of rural teachers in Ili Prefecture, Xinjiang

In the current era of rapid development of informatization and digitalization, improving teachers' digital competency is of great significance for education modernization, rural education revitalization, and students' all-round development. Among them, the necessity of improving the digital competency of rural teachers in Ili Prefecture of Xinjiang is as follows: First, at this stage, the state attaches great importance to the construction of education informatization and implements the

"Internet + education" strategy, which requires the promotion of the application of information technology in education throughout the country, including rural areas, among which improving the digital competency of rural teachers is the basis for achieving this goal. Second, the application of digital technology can narrow the gap between urban and rural education, so that rural students can enjoy better educational resources, and by improving teachers' digital capabilities, they can make better use of distance education resources, so that rural children can be exposed to high-quality educational content in the city and even internationally. Third, digital technology provides a wealth of new tools and methods for teaching, such as multimedia teaching, online interaction, etc., and the improvement of teachers' digital competency can make teaching content more vivid and interesting, which helps to improve students' learning interest and efficiency. Fourth, improving the digital competency of teachers is the key to promoting the modernization of rural education, which is also an important measure to promote the economic and cultural development of border ethnic minority areas, which has great practical significance and far-reaching impact on cultivating talents who meet the requirements of the new era.

3. Strategies for improving the digital competency of rural teachers in Ili Prefecture, Xinjiang

3.1 Formulating uniform standards for teachers' digital competency and clarifying reference points for development

Combined with the current situation of rural teachers' digital competency in Ili Prefecture of Xinjiang, in order to achieve the goal of effective improvement, it is necessary to formulate a unified standard for teachers' digital competency that meets the actual and future development needs of local education. In the formulation of standards and norms, it is necessary to combine educational requirements and standards to set different levels of assessment standards, such as teachers at the basic level should have basic information technology application skills, such as the use of operating systems, office software, network search tools, etc., and be able to use Internet resources to collect and sort out teaching content. At the intermediate level, teachers need to master the design and integration methods of digital teaching resources, and be able to design innovative digital teaching solutions based on subject characteristics and student needs. For example, teachers can use multimedia courseware, online teaching platforms and other tools to provide students with personalized learning experiences. At this level, teachers are also required to have good online communication skills, be able to communicate effectively with students, parents and peers through email, social platforms, online meetings, etc., and at the same time can use online platforms for homework assignment, correction and feedback, so that students can keep abreast of their own learning. At the higher level, teachers need to master a higher level of skills, and specific standards need to be developed based on comprehensive assessments and actual educational requirements.

3.2 Paying attention to building a stimulating campus development environment and cultivating teachers' awareness of data

When improving the digital competency of rural teachers, it can be achieved by building a stimulating campus development environment and cultivating teachers' data awareness, which can prompt teachers to correctly understand the necessity of implementing the "Internet + education" strategy. In view of this, the education management department should provide regular digital skills training for rural teachers, including the cutting-edge dynamics of education informatization and the digital processing of teaching resources, so as to enhance teachers' confidence and ability to use digital technology. In addition, teachers who have outstanding performance in the digital teaching environment can be commended and rewarded, and teachers' enthusiasm for learning and applying digital technology can be stimulated. In addition, the necessary hardware facilities can be provided in the specific training to ensure that rural schools have the necessary digital teaching equipment, such as computers, network access and multimedia teaching tools, so as to provide teachers with a good digital teaching environment. In the cultivation of teachers' data awareness, it is necessary to pay attention to the implementation of training activities and the optimization of training content, such as organizing "digital teaching demonstration classes", inviting teachers to observe classroom teaching using digital technology, and then

allowing teachers to discuss the advantages of digital teaching and how to apply it in daily teaching through seminars.

3.3 Increasing the integration of educational data and curriculum teaching and strengthening teachers' data skills

The development of teachers' digital competency is essentially a process of teacher specialization, which needs to be tested and promoted by teaching practice, and based on this point, it is necessary to increase the integration of educational data and curriculum teaching to strengthen teachers' data skills. After completing the above-mentioned training, teachers' digital literacy can be improved to a certain extent, and on this basis, teachers can use digital skills to achieve efficient and refined management, so as to maximize the advantages of "Internet + education". Teachers can analyze students' learning data to understand students' learning habits, interests and difficulties, and adjust teaching strategies based on this, such as using data analysis tools in the Learning Management System (LMS), teachers can observe students' engagement and performance, and adjust course content and teaching methods on this basis.

4. Conclusion

In summary, the improvement of the digital competency of rural teachers in Ili Prefecture of Xinjiang is of great significance for promoting regional development and improving the quality of education. Therefore, in the actual implementation of education, it is necessary to optimize the regional characteristics and the problems existing in the development of teachers' digital competency, and take corresponding countermeasures to improve teachers' digital competency, which can provide support for the improvement of rural education quality in Ili Prefecture of Xinjiang, which is of great practical significance.

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

References

[1] Zhang Wenxuan. Research on Strategies for Enhancing Digital Teaching Ability of Rural Teachers [J]. Rural Economy and Technology. 2023; 34(11): 283-285.

[2] Zhou Shugui, Tan Fangfang, Chen Miao. Professional development strategies for rural primary school teachers based on educational action research [J]. Teachers. 2022; (19): 84-86.

[3] Xiao Yating, Chen Zhengwu, Lv Jiaqi, et al. Research on the improvement of the competency of young teachers in ideological and political courses in colleges and universities under the environment of "smart learning"[J]. Industry and Science and Technology Forum. 2022; 21(13): 3.

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