

Digital Empowerment for Chinese Language Teaching in Rural Primary Schools: Exploration of Optimization Paths and Innovative Strategies

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Abstract. Against the backdrop of the deep integration of digital transformation in education and the Rural Revitalization Strategy, digital technologies are playing an increasingly important role in rural primary school education. By breaking geographical barriers to educational resources, adapting to students' individual differences, building professional development platforms for teachers, and innovating teaching evaluation mechanisms, digital technologies provide a new multi-dimensional and collaborative approach to Chinese language teaching in rural primary schools. This approach effectively responds to long-standing problems, including insufficient educational resources, a weak teaching faculty, and rigid teaching methods. Based on the current development status of rural education and the characteristics of Chinese language teaching in primary schools, and combined with the application practices of digital technologies in the field of education, this paper analyzes the practical value and core advantages of digital empowerment for Chinese language teaching in rural primary schools. It constructs optimization paths from four dimensions, namely resource supply, teaching implementation, teacher development and evaluation system, and puts forward targeted innovative strategies, aiming to provide practical references for promoting the high-quality development of Chinese language teaching in rural primary schools and advancing educational equity.

Keywords: Digital technology, Chinese language in rural primary schools, teaching optimization, path exploration, educational equity

1. Introduction

Rural education constitutes a fundamental component of educational modernization. The improvement of its quality not only directly bears on the effective implementation of educational equity, but also provides intellectual support and spiritual nourishment for the Rural Revitalization Strategy through the transmission mechanism of talent supply, cultural empowerment and conceptual renewal, thereby influencing both the depth and scope of policy implementation. Primary school Chinese, as a core subject of basic education, plays a central role in consolidating students' language foundations, cultivating their humanistic literacy and inheriting cultural roots. However, the current primary school Chinese teaching in rural areas still faces many difficulties: the uneven

distribution of high-quality teaching resources, and the gap between urban and rural development make it difficult for rural students to access cutting-edge educational content; there is a structural shortage of teaching staff, and teachers are insufficient in digital application capabilities, which makes it hard to meet the needs of personalized teaching. The teaching mode is relatively unitary and rigid, mostly focusing on one-way explanation of textbook content. It fails to accurately grasp the disciplinary laws of primary school Chinese teaching, such as integration of reading and writing and equal emphasis on listening and speaking, nor does it fully pay attention to students' individual differences in the cultivation of language sense and cultural perception [1].

With the in-depth penetration of digital technology in the field of education, and guided by policies such as The New Generation Artificial Intelligence Development Plan and Outline of the Plan for Building a Strong Education Nation (2024-2035), China is striving to tilt digital educational resources toward rural basic education and address the problem of the urban-rural digital divide in education. Promoting the in-depth integration of digital technology and basic education has provided policy support and practical guarantee for the transformation of rural education [2]. Based on the institutional framework constructed under the aforementioned policies, the characteristics of digital technology, such as resource integration, precision analysis and personalized adaptation, can precisely serve as effective means to make up for the shortcomings of rural primary school Chinese teaching. On this basis, combining the relevant research results including the training of rural education masters and the digital development of rural education, this paper explores the feasible paths and innovative strategies for digital empowerment of rural primary school Chinese teaching, so as to provide new ideas for improving the quality and efficiency of rural primary school Chinese teaching.

2. Practical value and core advantages of digital empowerment in rural primary school Chinese teaching

2.1. Addressing the contradiction between resource supply and demand and promoting educational equity

Primary school Chinese teaching in rural areas has long been constrained by a lack of high-quality resources, with an insufficient supply of extended resources beyond textbooks and demonstration lessons by renowned teachers. Digital technology can break geographical barriers, integrate high-quality Chinese education resources nationwide, and encompass a wide range of instructional content such as classic recitation, text interpretation and writing guidance [3]. Through carriers such as the National Smart Education Platform, rural students can conveniently access standardized and systematic learning resources, narrowing the gap in resource acquisition with urban students. Meanwhile, digital tools can be used to adapt resources according to the cognitive characteristics and learning needs of rural students. For example, abstract ancient poems and essays can be transformed into visual animations, and complex writing skills can be broken down into step-by-step training content, thereby enhancing the adaptability and practicality of the resources [4].

2.2. Supporting personalized teaching and conforming to the laws of Chinese learning

Primary school Chinese learning emphasizes accumulation and perception, and students show significant individual differences in terms of language perception, expression ability and other aspects. The traditional classroom teaching system is difficult to take into account the learning pace and development needs of each student, while digital technology can conduct systematic recording

and analysis of students' learning behaviors and knowledge mastery. Based on key Chinese learning data such as students' literacy volume, accuracy rate of reading answers, proficiency in ancient poems and essays, and reserve of writing materials, a visualized personalized learning profile is constructed to provide a basis for targeted teaching. Based on the institutional framework constructed under the aforementioned policies, digital technology, with its characteristics of resource integration, precision analysis and personalized adaptation, can serve as an important means to address existing limitations of rural primary school Chinese teaching [2]. For example, for students with insufficient literacy, interesting character recognition games and hierarchical character learning tasks can be pushed; for students with weak writing ability, targeted guidance on material accumulation and logical organization can be provided. This targeted teaching support conforms to the teaching principle of teaching students in accordance with their aptitude in primary school Chinese, and helps stimulate students' interest in learning and their initiative [5].

2.3. Facilitating the professional development of rural teachers and improving the efficiency of Chinese teaching

Primary school Chinese teachers in rural areas are confronted with problems such as heavy teaching tasks and limited professional training opportunities, and their digital application capabilities and teaching innovation capabilities are in urgent need of improvement. Digital technology can provide diversified professional support for teachers: through intelligent lesson planning systems, they can quickly generate lesson plans and courseware that are in line with the reality of rural teaching; Through online teaching and research platforms, rural teachers can carry out cross-regional collaborative teaching and research with renowned urban teachers, observe and learn from high-quality lesson examples, broaden their professional horizons, and enhance their understanding of diverse teaching models and concepts [6]. In addition, digital tools can take on repetitive teaching tasks, such as homework correction and basic knowledge assessment, saving teachers' time and energy and enabling them to focus more on teaching design, learning situation analysis and personalized tutoring, thus enhancing both the depth and effectiveness of instruction [7].

3. Optimization paths for digital empowerment in rural primary school Chinese teaching

3.1. Constructing an adaptable digital resource system and laying a solid foundation for teaching

Resource development should be based on the reality of rural primary school Chinese teaching, and it is necessary to avoid directly transplanting urban Chinese teaching resources. Otherwise, problems such as insufficient resource adaptability and a lack of local culture are likely to arise, which may conflict with the educational objectives of rural Chinese teaching. On the one hand, relying on digital technology to integrate high-quality resources, the present study will build a trinity resource library consisting of "basic resources + extended resources + local resources". Basic resources focus on textbook knowledge points to ensure the implementation of curriculum standards; extended resources cover content such as children's literature, traditional culture, and life practice to enrich students' accumulation; local resources explore elements like rural dialects, folk stories, and local culture, enhancing the sense of familiarity and practicality in Chinese learning. Based on real rural life scenarios, practical tasks are designed, such as writing hometown guide scripts, sorting out rural stories, and composing promotional slogans for agricultural products, so as to achieve the facilitating the application of acquired knowledge. Educators should abandon the

practice of directly transplanting urban Chinese teaching resources; otherwise, problems such as insufficient resource adaptability and lack of local culture are likely to occur, which run counter to the educational goals of rural Chinese teaching [2]. On the other hand, optimize the form of resource presentation, and adopt more visual carriers such as videos, audios, and interactive courseware to conform to the cognitive characteristics of rural students and reduce learning difficulty. At the same time, establish a dynamic resource update mechanism to continuously optimize resource quality in accordance with the requirements of teaching reform and student feedback [5].

3.2. Innovating digital teaching implementation models and improving teaching effectiveness

In the process of teaching implementation, educators should promote the in-depth integration of digital technology into all links of Chinese teaching. Before class, preview assessment tools are used to accurately identify students' knowledge weaknesses, providing data support for teachers to diagnose the shortcomings of students' reading and writing abilities and formulate personalized tutoring plans; During class, interactive teaching is carried out with the help of digital teaching terminals. For instance, speech recognition tools can assess students' reading accuracy; situation simulation resources are adopted to create scenarios corresponding to the texts, which enhances the immersive experience of Chinese learning and stimulates students' initiative in textual exploration. In this way, students can deepen their understanding of Chinese characters, words, sentences and paragraphs, as well as their comprehension of the connotations of the articles, thereby improving their core Chinese literacy. After class, personalized homework and review plans are generated based on students' learning data, and targeted push and intensive training are conducted for error-prone knowledge points [2]. In view of the current situation where there are a large number of left-behind children in rural areas, a simple online learning companion platform can be built. Through voice interaction, online Q&A and other methods, students are provided with after-class independent learning support. This can make up to a certain extent for the impact caused by insufficient family education support in rural areas, and build an auxiliary bridge of home-school collaboration for students' Chinese learning [7].

3.3. Building a digital teaching and research platform to promote teachers' professional growth

Teachers' digital application capabilities are the key guarantee for digital empowerment of teaching. A multi-level teacher development support system should be constructed: First, targeted training focusing on core competencies such as the use of digital teaching tools, the development of digital resources, and the design of digital teaching should be implemented [8]. Secondly, establish a cross-regional teaching and research community. Based on online teaching and research platforms, organize rural teachers and urban backbone teachers to carry out activities such as collective lesson preparation, teaching research and discussion, and lesson evaluation, and share teaching experience and innovative cases thirdly, encourage teachers to participate in digital teaching practice research, and explore the application scenarios and optimization strategies of digital technology in light of the reality of rural teaching. In the teaching practice of using digital tools to meet the needs of rural students, teachers can achieve the simultaneous improvement of their professional literacy and innovative teaching capabilities through problem-solving, experience accumulation and method iteration [9].

3.4. Improving the digital evaluation system and guiding teaching improvement

Traditional Chinese teaching evaluation focuses more on knowledge outcomes, with test scores as the main criterion, ignoring process-oriented evaluation and comprehensive quality development. Digital technology can build a diversified and process-oriented evaluation system: in terms of evaluation content, it not only covers subject knowledge such as character recognition and writing, reading comprehension, and writing expression, but also incorporates dimensions such as learning attitude, participation, and innovative thinking [2]. In terms of evaluation methods, educators should systematically track the whole process of students' learning, record situations such as classroom presentations, homework completion and extracurricular reading, generate dynamic evaluation reports, and fully reflect students' growth trajectory; in terms of evaluation feedback, targeted suggestions for teaching improvement can be provided to teachers based on evaluation results, and personalized guidance for improvement can be offered to students, so as to realize the goal of promoting teaching and learning through evaluation [5].

4. Innovative strategies for digital empowerment in rural primary school Chinese teaching

4.1. Enhancing technical practicality and lowering the application threshold

The technical infrastructure and teachers' digital literacy in rural areas are relatively weak, so digital teaching tools should follow the principle of "being simple and easy to use, stable and reliable". In terms of hardware configuration, priority should be given to lightweight devices suitable for the rural network environment, with offline functionality supported to avoid disruptions to teaching caused by network fluctuations. In terms of software design, simplify the operation process, provide visual interfaces and detailed user guides, so as to reduce the learning and usage costs for teachers [10]. Meanwhile, establish a technical support service system and set up a professional team to provide rural schools with services such as equipment maintenance, software upgrades and Q&A support, ensuring the stable implementation of digital technology.

4.2. Integrating local cultural elements and highlighting teaching characteristics

Rural primary school Chinese teaching should take root in the soil of local culture and avoid the risk of homogenization brought by digital technology. In resource development, tap into the unique cultural resources of rural areas—for example, integrate local folk stories and customs into reading teaching, and take rural natural scenery, production and living scenarios as writing materials [2]. In the design of teaching activities, carry out "local culture exploration" projects in combination with digital tools. For example, by virtue of functions such as photography and voice recording, let students collect and sort out local legends and dialect vocabulary of their hometowns, and then edit and display them through digital tools. This not only strengthens students' cognition and identification with local culture, but also improves their practical expression abilities such as classroom presentation and essay writing [11]. This integration model of "technology + local culture" can not only give play to the advantages of digital technology, but also highlight the unique value of rural Chinese teaching.

4.3. Constructing a collaborative education mechanism and pooling educational synergy

Digital empowerment in teaching does not imply technological substitution for human roles, but rather technology providing assistance and multi-party collaboration. A collaborative education

mechanism featuring "digital tools + teachers + parents" should be established: as the leading role in teaching, teachers are responsible for grasping the teaching direction, designing teaching activities and paying attention to students' emotional needs, so as to avoid over-reliance on technology. Parents use simple digital auxiliary tools to understand their children's learning status and cooperate with schools in carrying out activities such as extracurricular reading and parent-child reading; digital tools, as a bridge connecting teachers and parents, provide timely feed back students' learning progress and provide suggestions for home-school co-education [4]. To address the issue of insufficient digital literacy among rural parents, schools can conduct training and provide simple operation guides to lower their participation threshold, thus forging a joint force in education.

4.4. Upholding the essence of teaching and ensuring sound development

In the process of applying digital technology, the authors must adhere to the core essence of Chinese teaching. First, protect students' privacy, regulate the collection, storage and use of students' learning data, clarify data security responsibilities, and prevent information leakage [4]; second, avoid technological alienation and uphold the humanistic nature of Chinese teaching. Digital tools should serve as auxiliary teaching means and must not replace the emotional communication and ideological interaction between teachers and students. For example, in reading teaching, teachers still need to guide students to conduct in-depth perception and emotional experience; in writing teaching, focus on cultivating students' authentic expression and innovative thinking [12]. Third, educators should pay attention to the details of educational equity. By optimizing the digital infrastructure of rural schools, providing free public welfare teaching resources, and carrying out special training on digital operation for teachers and students, educators can break down barriers to resource access, ensure that all students can equally use digital teaching resources and tools, provide necessary equipment support for students from economically disadvantaged families, and avoid widening the learning gap due to differences in technical proficiency [3].

5. Conclusion

Digital technology offers unprecedented opportunities for rural primary school Chinese teaching. Its strengths in key areas resolve practical dilemmas. Yet digital empowerment is not mere tech superposition; it must align with rural teaching realities and optimize core areas. Establishing an adaptive resource system, innovating digital models, boosting teachers' digital literacy and upholding teaching essence maximize its value and drive high-quality rural Chinese teaching. As technology advances, rural Chinese teaching should explore in-depth tech-teaching integration. Integrating technology with humanistic values and practical considerations. Supports students' development and equity, empowering rural education revitalization.

References

- [1] Xue, F. F., & Zhang, Y. Y. (2024). A survey on digital literacy of teachers in rural primary and secondary schools. *China Examinations*, 12, 74–82.
- [2] Ministry of Education of the People's Republic of China. (2025). Outline of the Plan for Building an Education Power (2024-2035) [Policy document].
- [3] Wu, Y. X., & Long, Z. (2025). How can technological resilience empower rural education revitalization. *China Educational Technology*, 9, 79–86.
- [4] Wang, J. T., & Jin, S. M. (2025). A study on the differences in basic education opportunities between developed and underdeveloped regions. *Journal of Educational Studies*, 4, 34–52.

- [5] Feng, J. J. (2025). Providing "suitable education" for every student: Value pursuit and institutional design of "suitable education". *Journal of Central China Normal University (Humanities and Social Sciences Edition)*, 5, 34–42.
- [6] Qiu, L. J., & Liu, X. Z. (2023). Rural education revitalization in the era of artificial intelligence: Opportunities, challenges and countermeasures. *Education Academic Monthly*, 5, 47–53.
- [7] Guo, Y. J. (2025). Construction of the integration and development mechanism of urban and rural education under the rural revitalization strategy. *Journal of Teaching and Management*, Z1, 23–27.
- [8] Yao, Y. X., & Lei, J. H. (2023). Artificial intelligence empowering rural education governance: Logical approach, limiting factors and promotion paths. *Education Academic Monthly*, 9, 50–57.
- [9] He, M., & Zhang, Y. (2007). Design of a remote visual learning and teaching research platform for rural education master students. *China Distance Education*, 12, 51–54.
- [10] Shi, Y. J., Tang, B., & Xing, J. S. (2021). Empowering rural education development with information technology under the rural revitalization strategy. *Guizhou Social Sciences*, 1, 152–160.
- [11] Liu, X. N. (2023). Practical effects and reform paths of rural education in China in the new era. *Theory and Practice of Education*, 19, 20–25.
- [12] Xu, C. C., & Xue, Q. R. (2025). Opportunities, challenges and solutions of rural education development from the perspective of new-quality productive forces. *Modern Education Management*, 11, 36–44.