

Study on the Implementation Path of "Dual Reduction" in Rural Basic Education Promoted by Education Informatization

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Abstract: The cornerstone to a hundred-year plan is education. In the modern period, "Dual Reduction" has emerged as a novel technique to support the growth of high-quality education. In education, the integration of education information technology into "Dual Reduction" has become a new emphasis. For rural basic education, the implementation of "Dual Reduction" faces significant hurdles. Initially, it is required to suggest different strategies to ensure the quantity and quality of teachers, to promote teaching reform, to investigate new techniques of "Dual Reduction" classroom education, and to collect training synergy in accordance with the education informatization development trend. Concurrently, it must establish a new pattern of education governance with multiple collaborators, actively promote school district reform, then promote the construction of rural school communities, promote the construction of rural teachers, and enhance the effectiveness of information-based teaching and other coping strategies.

1 Raising of Issues

China has for decades promulgated initiatives to alleviate the stress of schoolwork for elementary and secondary school pupils. They have not been particularly successful, though [1]. In 2021, the execution of the Dual Reduction strategy has mostly attained its planned objective of lessening the workload of pupils' schoolwork and alleviating the pressure of out-of-school training. Yet, in light of the significant difference and imbalance of educational resources between urban and rural regions, there is a need to improve the deficiency of compulsory education in rural areas. Urban education is frequently the state's top priority when developing education policy, and excellent education resources are typically focused in urban priority development regions. Rural compulsory education is not favourable to closing the gap between urban and rural regions and areas, resulting in a long-term disadvantage.

2 Research Foundation

2.1 Connotation of "Dual Reduction" Policy

"The Dual Reduction policy aims to increase the quality of education and carry out the primary job of constructing a moral society. It seeks to strengthen school education, increase the quality of classroom instruction, optimise homework assignments, enhance the quality of after-school programmes, and alleviate the load placed on kids after school. It ultimately aims to increase students' overall quality and create a new ecology of excellent education. It

promotes students' enthusiasm in studying, enabling them to develop morally, intellectually, physically, artistically, and laboriously in a holistic manner, and cultivates multifaceted abilities that are compatible with the progressive development of society [2].

2.2 The Significance of Education Informatization to Promote the Implementation of "Dual Reduction" in Rural Basic Education

In 2020, there will be 156 million students enrolled in 211,000 mandatory education institutions across the country. There are 65,223 million students enrolled in rural elementary schools and 30,111 million enrolled in rural junior high schools. In addition, according to the national education development in 2020, the basic conditions of compulsory education informatization improved significantly, the integration of information technology and education teaching was gradually strengthened, and the proportion of rural compulsory education schools with a network was rising [3]. From the data, it is clear that the number of obligatory schooling groups in China's rural areas is still very high. The incorporation of information technology into rural education is still a contemporary issue that requires consideration. It also offers enormous potential for the growth of education in information technology.

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3 Practical Obstacles to the Implementation of "Dual Reduction" in Rural Basic Education Promoted by Education Information Technology

Many problems impede the Dual Reduction policy's implementation in rural schools. In the process of implementing the "Dual Reduction" policy, it is imperative to take into account the real obstacles in various aspects, such as the lack of teachers in rural education, the inability of teachers to use information technology in the classroom, the imperfect collaborative education mechanism of home, school, and society, and the imbalanced educational resources.

3.1 Informatization Education Instructors Need to be Strengthened

The "Dual Reduction" education strategy provides a clear roadmap. It sets more demands on rural teachers in terms of professional development, growth of their own business abilities, after-school service level, and teaching skills in information technology. Our "Dual Reduction" programme is executed by enhancing the quality of classroom instruction, lowering the overall quantity of homework, enhancing the level and quality of assignment design, and evaluating the education system comprehensively [4]. At certain rural schools and teaching settings, the age distribution of instructors is increasing older. Instructors' multimedia teaching skills are limited to merely playing slides. Their access to deeper, higher-quality digital instructional resources, such as more videos, mini courses, and animations, must be enhanced. The majority of young instructors are special educators and educators recruited through special initiatives such as "three supporters." Their roles are very fluid and insecure. The continuance of their education for students suffers from a certain deficiency. It is also necessary to augment and enhance professional informatics education instructors [5].

3.2 The Ability to Apply Information Technology Teaching Needs to be Improved

In response to the overall trend of educational development, "Dual Reduction" is a significant educational reform programme. Relative to prior texts on burden reduction, this one is more inclined to deliver severe blows, oversee, and enact regulations. It makes education governance more complete and diverse, and it restores education to the attribute of equity and the primary position of education on the campus, so contributing to the development of a high-quality education system [6]. The standards for education quality have become more challenging as a result of high-quality development. Many rural educators continue to teach textbook knowledge points and adhere to the old teaching approach. Young educators can utilise a number of high-quality digital educational tools in a flexible manner to expand classroom content and improve students' classroom experiences. Students' psychological

evaluations of instructors will be measured, resulting in the formation of a psychological gap and a drop in learning motivation.

3.3 Family-School-Society Collaborative Education Mechanism Needs to be Improved

The majority of students in rural schools are abandoned children. Throughout school hours, weekends, holidays, and summer and winter breaks, some students get addicted to electronic gaming devices and television networks. It is not favourable to the intellectual development and skill enhancement of students. Although schools have the liberty to provide after-school programmes for their teachers, it is challenging to recruit high-quality extracurricular instructors, exceptional university teacher trainees, and volunteers from social welfare groups. There are several barriers to money, transportation, and accommodations, as well as professional skills and equipment. It needs the necessary policy-making departments to implement the programme based on the policy and documents, as well as strengthen rules and processes. Government, society, and rural compulsory education institutions have not developed an integrated talent training model, and talent training synergy has not yet solidified. Appropriate information-based educational resources, such as after-school programmes and classroom teaching development via online platforms, have yet to be established [7].

3.4 Access to Digital Education Resources to be Expanded

Digital educational tools are one of the most essential approaches to modernise rural education today. Digital instructional tools provide the benefits of being quick, convenient, comprehensive, and organised. It also plays a significant role in boosting the resources of rural schools providing compulsory education [9]. The status of rural elementary schools is complicated. Many primary schools in remote areas are boarding schools, and students only return home on weekends. Only through the electronic teaching materials utilised by school instructors and classroom teachers do students have access to digital educational resources. Other routes are challenging to achieve. In addition, the majority of existing digital education resource platforms are designed for teachers, and there are few learning platforms designed expressly for rural students and parents in order to increase after-school programmes. To some extent, students are in a passive position.

4 Suggestions for the Implementation of "Dual Reduction" in Rural Compulsory Education in the Context of Education Informatization

In the education landscape, rural education is a rather weak connection. It offers more attention and aid to the implementation of "Dual Reduction" in rural compulsory

education, and it is a significant step towards promoting educational fairness and the all-around growth and development of rural youth [10]. We consider the reform of rural compulsory education in the new age from the standpoint of the 14th Five-Year Plan and the 2035 Vision at this crucial time when the "Second Hundred Years" are being achieved. In addition, we will achieve a new milestone on the route of "Dual Reduction" of rural compulsory education by incorporating the evolution of education information technology. To implement response strategies, one might begin with the following components.

4.1 Relying on Diversified Approaches to Ensure that the Quantity and Quality of Teachers are both Complementary

The majority of rural elementary school teachers are recruited for special programmes. In the past two years, schools have utilised summer and winter breaks to collaborate with universities on a variety of tutoring and other public interest initiatives. Local governments and education authorities should further enhance the supply of new teachers in rural compulsory education schools ad hoc post programme, the new age of "strong teacher programme", graduate teaching corps, "three support", the western programme volunteers, and other new teachers. It simplifies the regulations governing job recruiting criteria and increases the availability of qualified professionals. In order to enhance the meaning and impact of "Dual Reduction" in rural compulsory education, it should make full use of the channels to conduct an effective "introduction." For instance, teacher-training students from nearby universities and colleges can participate in educational internships, "three visits to the countryside" and "return home" activities throughout the winter and summer, as well as everyday volunteer services .

Concurrently, the appropriate education agencies, education-focused government officials, and decision-making units should concentrate on "retention." Attracting new teachers to rural education is the first job. To foster the local feelings of young teachers and to root them in the wide countryside in order to fulfil the original purpose of education, which was "educating people for the Party and educating talents for the nation." It is vital to consider, prepare, and ensure that more young people are willing to travel to and remain in rural areas . The incorporation of information technology in education can assist the implementation of "Dual Reduction" in rural compulsory schooling. It is essential for enhancing the quality of teaching and learning and keeping up with the evolution of the times. To fill the void and enhance the quality of rural education, it need more intellectually gifted young instructors. As demonstrated in Figure 1:

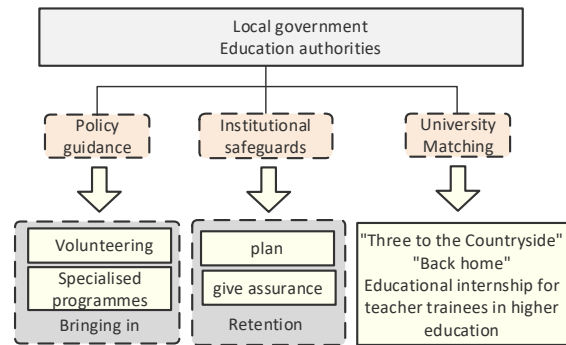


Fig.1.Good top-level planning by local governments and education authorities.

4.2 Promote Teaching Reform and Explore the New Model of "Dual Reduction" Classroom Education

Basic rural education now incorporates multimedia teaching methods and is also able to use established presentations for classroom instruction. However, the widespread implementation of information technology instruments to improve classroom quality and enhance after-school services has yet to be strengthened.

Education authorities should concentrate on remote mountainous locations in order to investigate new approaches to education and teaching. It should prioritise national demonstration and localization, incorporate resources, promote collaboratively, and implement "Dual Reduction" classroom teaching demonstration training for rural compulsory education institutions based on local circumstances. Then, he should investigate the training reform of "dual teacher teaching" mode, which combines master teacher networks with remote collaborative teaching and research, accelerate the pace of integrating information technology into "Dual Reduction," and boost the modernization of rural education .

The primary force behind the implementation of Dual Reduction is rural educators. Despite the fact that the majority of rural institutions now have Internet access, access to quality resources is limited. However, their access to high-quality resources is restricted and inconvenient, and they lack targeted and specific resources. Traditional educational practices must be abandoned by rural educators. With the assistance of youthful instructors, it must incorporate innovative elements to enhance their professionalism and information literacy. In the context of "Dual Reduction," it can enhance classroom instruction in the following ways. As demonstrated in Figure 2:

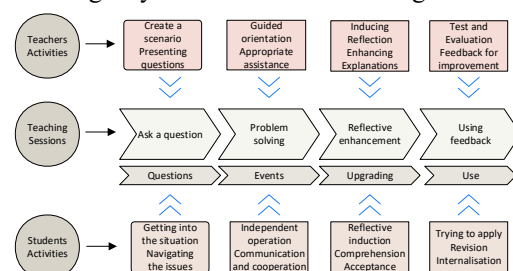


Fig.2.The new model of "double reduction" classroom teaching.

4.3 Unite Educational Cooperation and Build a New Pattern of Multi-party Collaboration in Educational Governance

Students now have substantially fewer exams and homework assignments thanks to the implementation of the "Dual Reduction" policy. Additionally, schoolwork is reduced. Consequently, if the quality of education is to be enhanced, the requirements for teachers must be increased. The rural basic education institutions will give special attention to the living conditions of the abandoned children. The school provides classes, assists students with their assignments, and promotes the "Dual Reduction" policy. There have been some successes. However, since the "Dual Reduction" program has persisted, rural education has been subject to increased expectations and demands. In general, parents of rural compulsory school students and school resources are not yet equipped and capable of providing after-school programs.

To this end, the government and relevant departments must effectively carry out their overall planning responsibilities. On the one hand, systematic rules and regulations should be formulated to effectively guide schools, families, and social education entities to actively participate in the implementation of Dual Reduction in a combination of online and offline ways, maximizing the benefits of online education resources. On the other hand, the investment in "Dual Reduction" in rural compulsory education schools should be increased, social education resources should be pooled and coordinated, scientific transformation of out-of-school training institutions should be guided, and the relationship between society, families, and schools should be strengthened in order to promote the integration of social education, family education, and school education and build a new pattern of multi-party cooperation in education governance. As demonstrated in Figure 3:

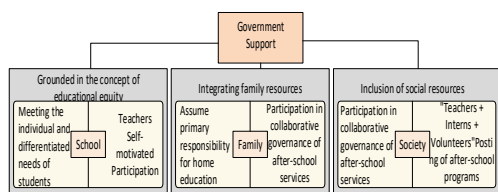


Fig.3.A new multi-party collaborative education governance landscape.

4.4 Promote the Rural Teacher Team and Enhance Information Technology Teaching Ability

The purpose of Information Technology Application Enhancement 2.0 is to enhance teachers' information technology application skills by highlighting the development of a reform in the instruction of information technology in schools. Higher standards for instructors' personal quality enhancement are also proposed by "Dual Reduction." Teachers are also required to enhance their personal qualities as part of the initiative. It is the propelling force behind rural education team building, the key to constructing a teaching force in the new era, and the

key to advancing rural education reform and enhancing the quality of "Dual Reduction" classroom instruction and after-school services.

In the context of Dual Reduction, the study proposes a framework of strategies for empowering rural instructors. In the context of "Dual Reduction," the study proposed a framework of strategies to empower rural instructors. The construction of education informatization infrastructure and a flawless rural school management guarantee mechanism are the fundamental guarantees. The development of professional development pathways for rural teachers and the optimization of the teacher assessment and evaluation system are the propelling forces behind the improvement of the informatization capacity of rural teachers. The keys are improving rural teachers' informatization teaching skills and enhancing their informatization teaching reflection. The aforementioned three aspects are integrated to solve the current problems in rural schools, such as outdated hardware infrastructure and a lack of professional software development and maintenance administrators, as well as limited training opportunities, lack of targeted training content and ineffectiveness, and teachers' inability to use information technology to access resources and lack of information technology teaching awareness and reflective skills. As shown in Figures5.

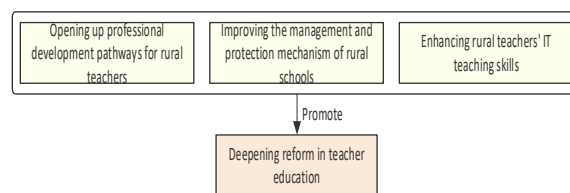


Fig.5.Mechanism to enhance the capacity of rural education information technology.

5 Conclusion

The "Dual Reduction" reform is currently ongoing, but rural elementary schools face numerous practical obstacles. However, with the aid of information technology, the integration of education modernization into rural education and the implementation of "Dual Reduction" have a promising future. Education departments and educators should have a thorough comprehension of the meaning of "Dual Reduction" and the original purpose of education. They should prioritize rural education and serve its revitalization with a sincere heart. It is devoted to the "Dual Reducing" of rural compulsory education in the new era, within the context of education informatization and the enhancement of the adaptability of after-school services, in order to propel its development toward a higher level of quality.

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