

Research on the cultivation path of digital reading literacy of left-behind children under the collaborative education mechanism

Abstract-In order to alleviate the fragmentation and absence of family, school and community in the process of child-rearing, break the independence of the field, realize the "digital" enabling collaborative education, and build a collaborative child-rearing platform, this paper further explores the current situation of digital reading literacy of rural left-behind children from the perspective of the subject, content, resources, methods and environment of digital reading through the method of literature and logical analysis. And from the different dimensions of family, school, society and digital media to deeply analyze its causes, and further build the path of digital reading literacy cultivation. Through the deep integration and synergy of families, schools and communities, an all-round and multi-level education ecology can be better formed, which not only helps to improve the digital reading ability and digital information literacy of rural left-behind children, but also promotes the revitalization of rural education and the modernization of education governance.

Key words-Collaborative education; Education of left-behind children; Digital reading literacy

Introduction :

Background of research on digital reading literacy of left-behind children under the collaborative education mechanism

In January 2023, the Ministry of Education and 13 other departments jointly issued the Opinions on Improving the School-Family-Society Cooperative Child-Raising Mechanism, which raised the importance of school-family-society cooperative child-raising to a new height, and proposed that by 2035, a well-positioned, sound, closely interconnected, scientific and efficient school-family-society cooperative child-raising mechanism should be formed. This requires all localities to correctly grasp the characteristics and laws of school and family social education, and explore a new path of family and school co-education.

The digital literacy of left-behind children has always been highly concerned by the Party and the state. On November 15, 2023, the Ministry of Civil Affairs jointly issued the "three-year action Plan to improve the quality of care services for rural left-behind children and children in difficulty" issued by 14 departments, pointing out that by 2026, the quality of care services for rural left-behind children and children in difficulty should be significantly improved, especially emphasizing the importance of providing reading guidance for difficult (left-behind) children and cultivating their digital literacy. To do a good job of digital reading for rural left-behind children is a systematic project, which is related to the promotion of high-quality development of education, and the "action plan" further clarifies the key tasks of schools, communities and families in the care of left-behind children, providing a development direction for promoting the education and care of left-behind children in the new era [9-11].

With the rapid development of information technology, new media products such as

mobile phones have been widely infiltrated into children's daily life, and they have been printed with the label of "digital natives". According to the 21st National Reading Survey, the exposure rate of minors under the age of 17 to digital reading methods in 2023 is 74.7%^[1]. For left-behind children in rural areas, due to the particularity of their environment, their ability to resist the temptation of mobile phones is more fragile, and it is urgent for schools, families and society to form joint efforts to intervene in educational care [12,13].

Based on this, a multi-dimensional and cross-disciplinary collaborative education mechanism is constructed to break the field independence, strengthen the main body cooperation, enable collaborative education by "digitization", build a platform for the development of home-school-community collaborative education, create a trinity of digital reading ecology, and explore effective strategies to improve their digital reading ability, so as to promote educational equity and social harmonious development.

II Analysis of the current situation and influencing factors of left-behind children's digital reading literacy

Through literature review and logical analysis, this paper further explores the current situation of digital reading literacy of rural left-behind children from the perspectives of digital reading subjects, digital reading content, digital reading resources, digital reading methods and digital reading environment, etc. Based on this, it further explores the factors affecting the current situation of digital reading literacy of rural left-behind children from four dimensions. It is analyzed from family, school, society and digital media.

A.The particularity of digital reading subjects

Due to the particularity of the environment, the current situation of digital reading literacy of left-behind children presents obvious deficiencies and challenges. The digital divide brought about by the dualization of urban and rural areas makes rural left-behind children become a special vulnerable group. The absence of parent-child education in the upbringing of left-behind children caused by their parents' migrant work leads to the absence of their growth environment and structure ^[2]. Because of the shortcomings in guidance and supervision, they directly affect their ability to use digital tools for effective reading -- their limited ability to identify and judge information leads to the erosion of bad information and affects their behavior patterns and needs in digital reading.

For left-behind children, they usually live in resource-poor rural areas, which makes them face more challenges when accessing and using digital reading resources. First, resource-poor rural environments limit left-behind children's access to high-quality digital reading materials, leading to a lag in the development of their skills in information retrieval, evaluation and utilization. Secondly, due to the relatively weak family education and social support system, left-behind children lack the necessary guidance to effectively use digital tools for reading and learning, which not only limits their ability to acquire knowledge and information, but also affects their critical thinking and digital literacy. In addition, for most parents, in view of the lack of their own presence and supervision, they more cooperate with school education, blame the school, expect too much from teachers, and the proportion of family education is seriously unbalanced. At the same time, many parents will be affected by the potential influence of traditional cognition, thus weakening the intensity of intervention. According to the logic of their own growth, they believe that learning depends on conscious awareness, so they do not interfere as much as possible.

Commented [BA1]: Please mention the rural areas, whereas the child left behind had problem about reading literacy. Could you please do ranking how much amount of the children effected?

Commented [BA2]: Could you please describe what the kind of high quality digital reading materials? What the standars?

Therefore, the special environment of left-behind children directly affects the improvement of their digital reading literacy, and it is necessary to bridge this gap through targeted educational intervention and social organization support.

B. The digital reading entertainment tendency

The entertainment of digital reading is particularly significant among left-behind children, mainly because they tend to choose reading content that can provide instant entertainment and easy experience, such as short videos, comics and gamified learning apps. Yan Qing ^[3] (2024) found that children are more inclined to classify digital reading behavior as the same as playing mobile phones and watching videos, but at the same time, they distinguish digital reading from other entertainment behaviors with the minimum standard of "at least reading".

The formation of entertainment is influenced by many factors. Firstly, left-behind children are more likely to be attracted by entertainment content on the Internet and digital devices due to lack of daily supervision and guidance from their parents. Secondly, education resources in rural areas are relatively scarce and quality reading materials are limited, which makes them more inclined to choose content that is easy to obtain and highly entertaining. In addition, the psychological needs of left-behind children, such as seeking emotional comfort and social interaction, also encourage them to prefer entertainment reading content that can provide instant satisfaction. These bad behaviors will lead to a lack of exposure to deep reading and intellectual content for left-behind children, thus affecting their ability to develop in critical thinking, information evaluation and deep understanding.

Therefore, although the tendency of entertainment in digital reading promotes the participation of left-behind children in digital reading to a certain extent, it also limits the comprehensive development of their digital reading literacy. It is necessary to guide children to contact and understand more in-depth reading materials while providing entertainment content, so as to balance entertainment and education and promote the balanced development of their digital reading literacy.

C. The imbalance of digital reading resources

Rural education is a weak link in Chinese education. Huang Chunchen ^[4] (2023) understand the current situation of rural children's digital reading from macro policies to micro practices, from reading terminals to digital resources, etc., and conclude that farm bookstore is the main way of rural children's digital reading, and mobile phone reading has become the main way of rural children's digital reading. In many rural areas, left-behind children are exposed to digital reading resources that are far less rich and high-quality than those of urban children. This includes not only a lack of hardware facilities, such as computers, smartphones and tablets, but also a lack of software resources, such as high-quality e-books, educational apps and online learning platforms. In addition, the imperfect network coverage and the limitation of Internet speed further aggravate this imbalance of resources, making it difficult for left-behind children to obtain the same digital reading experience as urban children.

Resource imbalance is influenced by many factors. First, limited economic conditions make it difficult for many rural households to afford expensive digital equipment and high-speed Internet service. Secondly, the uneven distribution of education policies and

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resources has led to deficiencies in the provision of digital reading resources in rural schools. In addition, parents of left-behind children, due to long-term work outside the home, are unable to provide the necessary guidance and support to help their children use these resources effectively.

To sum up, solving the contradiction between supply and demand of digital reading resources requires the joint efforts of the government, educational institutions and all sectors of society. By providing necessary hardware facilities, enriching software resources and strengthening network infrastructure construction, the gap in digital reading resources between urban and rural areas can be narrowed, so as to promote the comprehensive improvement of digital reading literacy of left-behind children.

D.The uniformity of digital reading methods

Left-behind children are faced with a serious uniformity of reading methods when they do digital reading. In many rural areas, left-behind children's exposure to digital reading is often limited to basic text reading and simple multimedia content, and there is a lack of diverse reading experiences such as interactive e-books, online courses, virtual reality (VR) and augmented reality (AR). This singleness not only limits their interest and engagement in reading, but also prevents them from developing higher-order cognitive skills such as critical thinking, problem solving, and innovative thinking. In addition, the lack of diversified reading experience limits their learning interest and motivation, making it difficult for them to form a proactive learning attitude.

There are many factors contributing to this situation. First of all, educational resources in rural areas are relatively scarce, and left-behind children are difficult to access a variety of digital reading tools and platforms. Secondly, the restrictions of family economic conditions make it impossible for many families with left-behind children to provide advanced digital devices, such as tablet computers, VR headsets, etc., which are the basis for experiencing rich digital reading methods. In addition, parents of left-behind children cannot provide necessary guidance and supervision due to long-term work outside the home, and children are more likely to fall into the situation of "entertainment to death" in the Internet bubble with different advantages and disadvantages ^[5].

Therefore, in order to comprehensively improve the digital reading literacy of left-behind children and resist excessive addiction to digital media, it is necessary to provide diversified reading methods to stimulate their learning interest and promote the comprehensive development of deep learning and literacy.

E.The "Information Trek" triggered by the Digital Age

In the digital age, left-behind children face the challenge of information trek, which significantly affects their digital reading literacy. Zhong Zhixian ^[6] summarized the pitfalls of digital reading as "greedy, quick, shallow, fragmented, frivolous, and chaotic", namely, information overload, fast reading, shallow reading, fragmented reading, light reading, and mental disorder. Yang Huirong ^[7] focused on the identity of young people and believed that digital reading reshaped the identity of young people by relying on its three-dimensional symbols, diversified channels and interactive circle groups. Due to the lack of effective guidance and support, in the digital reading era full of information explosion and information cocoon, left-behind children are more likely to fall into identity anxiety, self-concept ambiguity, self-identity radicalization and other crises. They are more likely to get lost in

the ocean of information when using digital devices and are unable to effectively sift and evaluate information.

There are many factors contributing to this information trek. First, left-behind children often lack adult supervision and guidance to gain skills on how to effectively use search engines and assess the reliability of information sources. Secondly, educational resources in rural areas are relatively scarce, and left-behind children have limited access to digital literacy education, making it difficult for them to master the necessary digital reading skills. In addition, left-behind children may over-rely on social media and entertainment content due to loneliness and seeking social interaction, which further exacerbates the problem of information trek.

Therefore, all parties need to provide targeted guidance to left-behind children, help them master the skills of information screening, evaluation and utilization, and encourage them to do deep reading and critical thinking to cope with the challenges of information trek.

III The cultivation of digital reading literacy of left-behind children under the collaborative education mechanism

Under the background of the revitalization of rural education and the promotion of the modernization of education governance, the cooperative education of family, school and community is not only related to the healthy development and success of left-behind children, but also becomes the difficulty of promoting the high-quality development of rural education in the new era. In view of the challenges of left-behind children in digital reading, it is particularly necessary to build a cultivation path for left-behind children's digital reading literacy under the collaborative education mechanism.

Based on this situation, this paper aims to build a multi-dimensional and cross-disciplinary digital reading ecology featuring the trinity of family, school and community, strengthen the multi-dimensional collaboration of family, school and society, break the field independence, realize the "digital" enabling collaborative education, jointly build a development platform for collaborative education of family, school and community, create a situation of the same frequency resonance, and comprehensively improve their digital literacy and digital reading ability. Develop critical thinking to ensure they can grow healthily and fully in the digital age.

A.Home-school interaction: Building a bridge of digital reading literacy for left-behind children

The "Opinions of The State Council on Strengthening the Care and Protection of Rural left-behind children" clearly stipulates that families have the main responsibility for the guardianship of left-behind children, that is, to "adhere to family responsibility." Parents need to take the main responsibility to improve their own digital literacy, cooperate with school education work, and better shape children's correct digital reading literacy.

Schools, as the main force to respond to the school-family-community collaborative parenting policy, link society and family, and coordinate and link the responsible subjects of family education, optimize their collaborative function is the key to the construction of the family-school-community collaborative system ^[8]. Schools should continue to strengthen the role of the main position, ensure the "presence" of parents of left-behind children in family education guidance, and assist schools to strengthen help for left-behind

children. Such as regular family visits to left-behind children, strengthen the care and help of left-behind children; Actively spread the knowledge of "correct use of digital media" and "anti-network information cocoon", improve the discrimination ability and awareness of left-behind children, prevent stepping into "information trek", and standardize the digital reading behavior of left-behind children; Provide rich digital reading resources and diversified reading methods, such as the introduction of e-books, online courses and educational applications, to meet different reading needs. At the same time, digital literacy education courses are conducted to teach students how to use the Internet and digital tools safely and effectively, and to develop the ability to screen, evaluate and utilize information. In the process of implementing home-school interaction, emphasis should be placed on strengthening parent-child, teacher-student and peer relations, integrating the three into one, and giving better play to the educational advantages of home-school cooperation.

In summary, by creating a home-school cooperation mechanism for left-behind children, schools can play a leading role in collaborative education, ensure that parents of left-behind children are "present" in an all-round way, and jointly build a digital reading bridge for left-behind children.

B.Social participation: Building a community support system for left-behind children's digital reading

Due to the particularity of the space and family structure of left-behind children, the community bears a large part of the educational responsibility. In 2023, the Opinions on Improving the Mechanism of School, Family and Society Cooperative Education emphasized that social organizations should give full play to their own advantages in education and actively participate in the construction of a benign ecosystem of cooperative education.

In view of the contradiction between supply and demand of existing resources, social organizations advocate policy changes, push the government and all sectors of society to pay attention to the problem of left-behind children, and strive for more resources and support. By accelerating the construction of information infrastructure, with digital reading terminals as the starting point, the use of big data, cloud computing, blockchain, artificial intelligence and other new technologies to bring more immersive and diversified digital reading experience to rural left-behind children. At the same time, digital reading resources are provided, such as donating e-book readers, setting up digital libraries or providing free or low-cost online educational resources, to ensure that left-behind children have access to a rich variety of reading materials and alleviate the problem of single digital reading methods.

Social organizations can cooperate with communities to carry out education and assistance activities for vulnerable groups. First of all, community activities such as reading clubs, science and technology workshops and online learning groups should be organized to provide opportunities for digital practice and learning interaction for left-behind children, promote the construction of "one-stop" community services for left-behind children, and realize a comprehensive education platform integrating education, knowledge and service.

In addition, social organizations can jointly carry out care services for left-behind children with schools. For example, through sending warmth, drug control, legal education activities and other ways, to provide left-behind children in schools in the region with

psychological counseling, after-school counseling and other services to make up for the lack of educational resources in families and schools. And through regular return visits, strengthen the care and assistance for left-behind children, help them strengthen the contact with migrant parents, promote the upgrading of care services for rural left-behind children, and promote social organizations to play their own advantages in education.

By building a community support system for digital reading for left-behind children, we can help left-behind children overcome difficulties in digital reading and improve their digital literacy, so as to better adapt to the learning and life needs of the digital age.

C. Multi-party aggregation: Building a three-in-one digital reading ecology of home, school and community

Efficient communication system plays a decisive role in the effectiveness of school-home-community collaborative parenting for rural left-behind children. Families, schools, and social organizations need to work together to build a supportive environment to promote the comprehensive development of digital literacy for left-behind children by integrating their respective strengths and resources.

Parents should actively participate in their children's digital reading process, providing the necessary supervision and guidance, while learning how to guide their children to effective digital reading. Schools should strengthen digital literacy education, introduce diverse reading resources and interactive learning tools, and conduct training on information screening and evaluation. Social organizations can provide additional resources and support, such as donating digital devices, building online learning platforms, organizing community events, and providing parent education programs. Through this converging model, families and schools can work together to create a supportive learning environment for left-behind children, help them overcome difficulties in digital reading, and improve their digital literacy.

The process of cultivating the digital reading literacy of left-behind children is affected by many factors. Therefore, by constructing a multi-dimensional and cross-disciplinary digital reading ecology that integrates the family, school and community, the field independence is broken, top-level design is carried out, and practical support is provided around the actual needs of left-behind children. It really makes the digital reading process of left-behind children show a healthy and sustained benign development trend. Through a multi-pronged approach, it is more possible to achieve "digital" enabling collaborative parenting and promote the comprehensive development of digital literacy of rural left-behind children.

IV Conclusion

Improving the mechanism of coordinated education between schools, families and society is an important decision made by the Party Central Committee and The State Council, which bears on the all-round development of children and the healthy growth of the country and the future of the nation. The cooperative education of left-behind children in rural areas is not only an inevitable choice for the revitalization of rural education, but also an inevitable requirement for the modernization of education management. This paper is based on the collaborative education mechanism to explore and discuss the digital reading ecology of left-behind children.

Under the collaborative education mechanism, the cultivation path of left-behind

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children's digital reading literacy requires the deep integration and synergy of families, schools and communities to form an all-round and multi-level education ecology. Through the method of literature and logical analysis, this study deeply discusses the roles and responsibilities of the family, school and community in the cultivation of digital reading literacy, and puts forward a three-in-one construction path. By integrating the resources and expertise of families, schools, and social organizations, we can create a more balanced and rich digital reading environment for left-behind children, thereby promoting the comprehensive development of their digital literacy. Promoting the construction of an ecosystem that supports the comprehensive development of digital reading literacy of left-behind children not only helps to improve the digital reading ability and digital information literacy of rural left-behind children, but also promotes the revitalization of rural education and the modernization of educational governance.

In conclusion, the importance of this research is that it not only points out the crux of the problem, but also provides practical solutions and cultivation paths. In the future, we look forward to further optimizing the collaborative mechanism through continuous tripartite cooperation and innovation to ensure that every left-behind child can have equal development opportunities in the digital reading ecological era and maximize their personal potential.

UNDER PEER REVIEW

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