

Study on the digitalization path of family education for "left-behind" children of overseas Chinese hometown

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Abstract: This study explores the challenges faced by "left-behind" children of overseas Chinese in family education through field research in Qingtian County, Zhejiang Province. Issues identified include limited parent-child communication, inadequate academic support, and poor home-school coordination. To overcome these obstacles, we propose leveraging digital technologies, including AI, IoT, VR, online education, and big data to create a digital pathway that promotes family education, aiming to improve the quality and effectiveness of family education for these children and promote their overall healthy development.

Key words: overseas Chinese; "left-behind" children of overseas Chinese hometown; family education; digitalization paths

1 Introduction

General Secretary Xi pointed out that "family is the first classroom of life, and parents are the first teachers of their children". *The Family Education Promotion Law*, which came into force on January 1, 2022, further clarified the importance and urgency of family education. Leaders of the Party and the State have always attached great importance to the development of overseas Chinese affairs, and have put forward such important theses as "attaching equal importance to both domestic and overseas affairs, and to both old and new overseas Chinese", and "actively expanding the work of overseas Chinese and the work of new overseas Chinese". According to the *2019 World Chinese Business Development Report*, there are nearly 60 million overseas Chinese in China, not including short-term expatriates, and it is estimated that there are more than 5 million left-behind children with their parents abroad. Academics widely define "left-behind" children of overseas Chinese hometown as children under the age of 18 with their parents abroad and they remain in the country individually as overseas Chinese dependents, who are an important overseas Chinese resource for the future of China. Due to "transnational foster care", left-behind children with their parents abroad face problems such as the absence of the main body of family education, the lack of family affection, and the imbalance of intergenerational education, etc., and they generally suffer from problems such as poor academic performance, withdrawn personality, deviant behavior, and poor social adaptation. It is clear that, as a result of the lack of family education, this group has effectively become a new "disadvantaged" marginalized group. Based on the consideration of the factors of temporal and spatial barriers to

family education, digital technology becomes a possible intervention and educational pathway. For this reason, this study attempts to integrate digital technology with family education, explore the digital path of family education for "left-behind" children of overseas Chinese hometown and try to bring the main body of family education for "left-behind" children of overseas Chinese hometown and family education back to its original position.

2 Analysis of family education problems of "left-behind" children of overseas Chinese hometown

2.1 Lack of parent-child communication among "left-behind" children of overseas Chinese hometown

In the survey sample, nearly 80% of the left-behind children whose parents stay abroad live with their grandparents. However, the ability of grandparents to supervise the children is relatively low, and it is difficult for them to manage their children's learning, life and friendships outside the home, as they cannot communicate effectively with them and lack strong adult supervision. In the survey sample, nearly 80% of the children were curious about their parents' life abroad. On the one hand, it can be seen that children rely on their parents and long to live with them; on the other hand, it can also be learned that most of the chats between parents and children are centered on the children, and they seldom talk about the current situation of the parents' own lives, so that the exchanges between children and adults are unequal dialogues and lack of sincere communication between each other's hearts [1]. About 42.3% of parents of "left-behind" children of overseas Chinese hometown have not been home for a year, and nearly 60% have not been home for two years or more. Parents are separated from their children for long periods of time, lacking effective and timely communication and interaction with their children, and children are faced with problems such as the absence of the main body of family education and the lack of family affection.

2.2 Absence of parent-child companionship for "left-behind" children of overseas Chinese hometown

Although nearly half of the children in our survey sample contact and communicate with their parents on a daily basis, an in-depth survey shows that when children encounter problems, they usually do not take the initiative to mention them to their parents and ask for help, but prefer to solve them independently. This reflects the fact that they actually lack the necessary help and guidance from their parents. Further research reveals a more worrying phenomenon: nearly 77% of the children have a deep-seated desire for their parents to be with them every day, while nearly 23% of children feel lonely and even anxious when separated from their parents in some cases. Prolonged absence of companionship not only causes children to gradually become uncommunicative and withdrawn due to a lack of affection, but, more seriously, it may also lead to a decline in their social adaptability, thus hindering their overall development of a healthy mind.

2.3 Poor communication between home and school for "left-behind" children of overseas Chinese hometown

According to our in-depth survey, about 37.5% of the parents of "left-behind" children of overseas Chinese hometown are significantly less motivated to initiate contact with teachers. The communication difficulties between home and school are mainly reflected in the significant time difference between home and abroad, the mismatch of contact time, and the lag in the information feedback from both sides [2]. The combination of these factors leads to parents' blurred perceptions of the difficulties children face in learning and life, deepening the misunderstanding and disconnection between parents and children. At the same time, it also prevents teachers from gaining timely insight into students' true feelings and thought dynamics, and makes it difficult to effectively guide and correct their possible bad behavioral tendencies. For left-behind children by their parents abroad, the lack of communication between home and school may have an unusual impact on their childhood. Therefore, bridging this gap in home-school communication is not only of critical importance, but also an urgent issue in the field of education.

2.4 Lack of academic support for "left-behind" children of overseas Chinese hometown

The results of our field visits and investigations show that as many as 70% of the "left-behind" children of overseas Chinese hometown do not have someone around to provide them with the necessary assistance in completing their homework. These children are alone on their learning paths because they lack both parental companionship and guidance, as well as long-term, frequent and targeted academic support from caregivers such as grandparents. Living in an environment lacking parental care for a long time, left-behind children by their parents abroad are often too shy to seek academic help from outside. As time passes, this situation may lead to the gradual development of a "learned helplessness" and a negative attitude towards learning. In our interviews, when these children are caught in this kind of psychological predicament, it is often difficult for them to maintain their enthusiasm and motivation for learning, and they may even lose their determination to overcome the difficulties, which may in turn lead to the development of negative thoughts of self-indulgence and self-abandonment [3]. These problems are ultimately reflected in academic performance, with most of the "left-behind" children of overseas Chinese hometown lagging behind in their academic performance and their study habits are unsatisfactory.

3 Digitalization of family education paths for left-behind children of overseas Chinese hometowns

3.1 Utilizing artificial intelligence technology to build an online family education service platform

Intelligent agent technology is based on intelligent correlation of massive search, active collection of information needed by parents, to meet the needs of parents' independent personalized learning [4]. The expert system utilizes the reasoning technology in artificial intelligence to simulate education experts, which can quickly and accurately, automatically and scientifically deal with the specific problems of parental home education. Through human-computer interaction, it simulates the thinking of experts in solving parenting problems and improves the ability to deal with family education problems.

3.2 Utilizing the Internet of Things technology to build an instant sensory companionship platform

Internet of Things technology utilizes RFID, sensors, QR codes, etc. to obtain information about both parties anytime and anywhere for comprehensive perception. At the same time, it can expand their knowledge ability based on the parents' and children's geographic location, and push the relevant knowledge. With the help of context perception, parents and children can produce interactive companion experience.

3.3 Utilizing virtual reality technology to build a cross-temporal parent-child interaction platform

Virtual reality technology completely breaks the limitations of time and space, eliminating the cognitive blockage caused by time and space. Virtual reality technology can create realistic scenes, where parents and children can cross the time and space together to climb Mount Everest, tour the West Lake in Hangzhou, etc., which promotes children's social-emotional development through the actualization of virtual objects to bring about a sense of immersion.

3.4 Utilizing online education technology to build an academic guidance service platform

This platform realizes the interaction of the four roles of "teacher-student-parent-administrator" through the four links of assessment, self-study, orientation and tutoring [5]. Self-study and tutoring provide students with motivation to learn, and assessment and orientation provide feedback on the quality status of self-study and tutoring and guide all parties involved to make positive improvements.

3.5 Utilizing big data technology to build an information-sharing home-school collaborative parenting platform

Based on big data, school administrators and teachers can gain a comprehensive and in-depth understanding of the educational needs of "left-behind" children of overseas Chinese hometown and improve the accuracy of educational decision-making. Parents can view students' school learning data, daily homework data and dynamic learning analysis and

diagnostic evaluation at any time. It satisfies parents' right to know while allowing them to participate in the teaching process and provide feedback to teachers and administrators at any time.

4 Conclusion

Through in-depth research on the family education of left-behind children of overseas Chinese hometowns, this study reveals the challenges faced by this group in terms of family education. In response to these problems, we have proposed a series of solutions based on digital technology, aiming to build an all-round, multi-level support system for family education [6]. These digital pathways not only make up for the lack of family education for left-behind children of overseas Chinese hometowns, but also promote their physical and mental health and academic development. In the future, we will continue to pay attention to and study the practical application of these digital pathways so as to provide them with more precise and effective family education support. At the same time, we also hope that all sectors of society can give more attention and help to this special group and work together to create a warmer and healthier environment for their growth.

Conflicts of interest

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

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