Research on the Current Situation and Countermeasures of Family Education under the Digital Background

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Abstract: With the advent of the digital age, the educational environment of families has undergone profound changes. This paper aims to explore the current situation of family education under the background of digitalization, analyze the existing opportunities and challenges, and put forward corresponding countermeasures. Including the positive impact of digital resources on family education, they also bring many challenges, such as the digital divide, information overload, network security, and other issues. Based on these current analysis, corresponding countermeasures are put forward to improve the quality of family education under the digital background and promote the healthy growth of children in the digital age.

1. Introduction

The digital wave has swept across the world, profoundly changing the way people live, learn and socialize. As the basic unit of the society, the family is inevitably affected by digitization. In the field of family education, digitization not only brings unprecedented opportunities, but also causes many new problems and challenges. Educators, researchers, and policymakers should further study the current situation of family education under the background of digital and seek effective countermeasures for the healthy growth of children, education methods in the family, parent-child relationship, access to educational resources, harmonious development of family and social progress[1].

2. The status quo of family education under the digital background

2.1 The positive impact of digital resources on family education

2.1.1 The richness and accessibility of educational resources

The Internet is a huge treasure house of knowledge, and the digital resources break the time-space limit of the traditional family education resources. Parents and children have easy access to educational information from around the world, covering all disciplines, from basic scientific knowledge to the humanities and arts, to the modern emerging technology [2]. For example, online encyclopedias like Wikipedia provide families with almost unlimited ways to find their knowledge queries, and children can explore different knowledge points at any time according to their own

interests.

Online libraries, such as China's National Digital Library and Super Star Digital Library, have a large number of books, periodicals, magazines and other resources. Parents can guide their children to use these resources to read and expand, whether classics or cutting-edge academic research results, which helps children to broaden their knowledge and cultivate their ability of independent learning.

The digital education platform provides personalized learning resources recommendation [3] according to users' learning progress, interests and hobbies and other factors. For example, some online learning platforms, such as Coursera and EdX, use algorithms to analyze learners' learning data and recommend suitable courses for them. In family education, parents can use these platforms to customize learning plans for their children to meet their personalized learning needs. If children have a strong interest in programming, the platform will recommend courses at different levels of difficulty and in different programming languages, from entry-level Scratch programming to advanced Python programming courses. Education APP also provides a wealth of personalized learning experience. For example, the English learning APP "Ci" customized word learning plans for users according to their vocabulary level and memory rules, and children can learn at their own pace. At the same time, the APP also provides interesting learning methods, such as pictures, games and other forms to help children remember words and improve learning efficiency.

2.1.2 Diversified educational methods and interactive experience

Digital resources introduce multimedia teaching means for family education, which make the learning process more vivid and interesting. Video resources is an important part of it, for example, in the natural science education, parents can play the BBC natural documentary, let the child intuitively see the animal life habits, the operation of the ecosystem, the visual and auditory double stimulation than simple books can attract children's attention, enhance their understanding of knowledge and memory.

Online learning platforms and educational APP usually provide interactive learning functions. For example, some language learning APPs have set up a speech recognition function, so that children can practice oral pronunciation, and the APP will give immediate feedback to correct pronunciation errors.

2.1.3 Enhance home-school cooperation and social support

Digital communication tools such as WeChat and Dingding provide a convenient communication channel for home-school cooperation. Teachers can timely feedback to parents their children's study and life in school, including academic performance, classroom performance, interpersonal relationship and other information. Parents can also consult teachers about their children's learning problems at any time, and understand the school's education and teaching plans and arrangements, so that the two sides can better coordinate their children's education work. For example, teachers can send the day's homework content and test notice through the class WeChat group, and parents can check and urge their children to complete their homework in time. Some schools also use online parent-teacher meetings to allow parents to participate in their school parents' meetings remotely. This makes it easier for parents to participate, especially for those who are busy and unable to get to school.

Social media platforms and online education communities provide extensive social support for family education. On social media, parents can join various education-related groups or forums to exchange their family education experiences and share educational resources with other parents. For example, in the Douban group, there are many groups about family education, where parents can

discuss their children's growth and recommend good education books or activities.

The online education community also brings together a large number of education experts, academics, and frontline teachers. Parents can ask professionals about educational issues and get professional advice and guidance in these communities. For example, there are many hot topics about family education on Zhihu, where many professionals will answer parents' questions and provide valuable insights and solutions.

2.1.4 Innovative ways of education

Multimedia technology makes family education methods more diverse. For example, through animation, video and other forms of knowledge to teach children more vivid image. Many educational animations, such as "Baby Bus" series, teach children common knowledge of life and basic knowledge in a way of entertainment.

Virtual reality (VR) and augmented reality (AR) technology have also been applied in the exploration of family education. For example, in geography study, children can visit the places of interest around the world through VR equipment to enhance their understanding of geography knowledge.

2.1.5 Promote parent-child communication and common learning

Social media and communication tools provide a new platform for parent-child communication. Parents and children can share their life and discuss topics of interest through wechat, QQ and other instant messaging tools. Some parent-child education APPs (such as baby kiss) also provide family sharing space, where parents can upload photos and videos of their children's growth, and family members can participate in their children's growth records to strengthen family cohesion. Parents and children can also learn digital skills together, communicate with each other, and enhance the parent-child relationship.

2.2 Challenges facing family education in the context of digitization

2.2.1 Digital gap problems

Different households differ in digital device ownership and network access conditions. Families with better economic conditions may equip their children with high-end computers, tablets and other digital devices, and have fast Internet speed and stable signals, while some economically poor families may have only a single mobile phone for their children's digital learning, and even the Internet access is unstable. This hardware gap can affect children's ability to access digital education resources.

Parents and children also differ in digital literacy. Due to their own education level, occupation and other factors, some parents have limited understanding and application ability of digital technology, so they cannot effectively guide their children to use digital resources for learning. For example, some parents are not familiar with the operation of online learning platforms and cannot help their children solve the technical problems they encounter in the learning process.

2.2.2 Information overload and false information problems

The information on the Internet is massive and complex, and children are prone to information overload when obtaining information. Too much information may distract children and making it difficult for them to focus on valuable things to learn. For example, when searching for learning materials, a large number of ads, entertainment news may pop up. There is a lot of false information

on the Internet, especially on social media platforms. Children lack the ability to be misled by false information. For example, some false health care information and pseudoscientific knowledge may be accepted as the truth by children, affecting their scientific literacy and health concepts.

2.2.3 Network security and privacy problems

Children face cybersecurity risks when using digital devices and networks, such as cyberbullying and online fraud. Some children may suffer cyberbullying such as abuse and threats from other players on online games or social media platforms; and criminals may be defrauded of personal information or money for various reasons. Children's privacy protection has also become an important issue. In some digital applications, too much personal information may be collected, and if the app is mismanaged, the information may be leaked, posing potential risks to the child.

2.2.4 Negative effects on children's physical and mental health

Long-term use of digital devices can affect a child's visual health. The incidence of vision problems, such as myopia, is also on the rise as children spend more time using devices such as mobile phones and computers. Excessive reliance on digital entertainment (such as online games, short videos, etc.) may affect children's attention, social skills, and motivation to learn. Some children are addicted to online games, which leads to lower academic performance and less communication with family and friends.

3. The countermeasures of family education under the digital background

3.1 Improve parents' digital literacy

3.1.1 Carry out digital literacy training for parents

Communities, schools, and social institutions can jointly develop a digital literacy training course for parents. These courses can include the basic operation of digital devices, network security knowledge, and how to screen quality digital education resources. For example, communities can regularly hold training classes on smartphone use, teaching parents how to use mobile apps to find educational resources and how to set up network security protection. Training can be combined in online and offline ways. Online learning materials and video tutorials are provided for parents to study independently, and offline practical operations and question-answering activities are organized to improve parents' learning effect.

3.1.2 Encourage parents to improve themselves

Schools can encourage parents to improve their digital literacy through parent-teacher meetings and parent schools. For example, recommend some books, websites or online courses to improve digital literacy to parents, and establish a platform for digital literacy communication among parents. Parents can share their digital learning experiences, problems and solutions to learn from and promote each other.

3.2 Strengthen the digital education and guidance for children

3.2.1 Cultivate a child's ability to distinguish between digital information

Parents should guide their children to learn to distinguish between the authenticity of information. You can start from the small things in your daily life, such as when seeing a piece of news, and

analyze the rationality of the news source and content together with your children. For example, when you see an article about the magical effect of a certain food, parents can guide their children to consult scientific information to determine whether it is a scientific fact. Schools can offer special information literacy courses to teach children knowledge and skills such as how to assess the reliability of information and how to identify network traps.

3.2.2 Guide your children to use their digital devices properly

Parents should work with their children to formulate rules for the use of digital devices. Parents should specify the daily time spent on electronic devices, in which cases they can be used (such as for learning or proper entertainment), and in which cases not (e.g. when eating or before going to bed). Parents should cultivate children's diverse interests and reduce their over-reliance on digital entertainment. For example, parents should encourage children to participate in sports, painting, music, and other activities, so that children can find fun and a sense of achievement in real life.

3.3 Reduce the digital gap

3.3.1 Policy support and resource sharing

The government can introduce relevant policies to provide economically disadvantaged families with subsidies for purchasing digital equipment purchases or network access fees. For example, some local governments offer tablet subsidies to children from poor families so they can do online learning. We should establish a community digital resource sharing center to provide free or low-cost digital equipment borrowing services for families, while providing network access services.

For example, the community can set up electronic reading rooms, equipped with computers, printers and other equipment, for residents to use for free.

3.3.2 Home-school cooperation to promote digital equity

Schools can provide more digital learning opportunities for students with poor family conditions.
The school can extend the opening hours of the computer room to give the students more time to study with the school's digital equipment; organize volunteers to provide one-on-one digital learning.

3.4 To protect children's network security and privacy

3.4.1 Strengthen network security awareness education

Parents should popularize network security knowledge to their children, such as not revealing personal information, not clicking on unknown links. Children can deeply understand the importance of network security through case analysis. For example, parents tell the child about some cases of network fraud, so that they understand the methods and prevention strategies.
Schools can carry out network security education month activities, through the theme class meeting, speech contests and other forms, to create an atmosphere of network security in the campus, improve students' awareness of network security.

3.4.2 Take network security protection measures

Parents should install network security protection software on their home network devices, such as firewall and anti-virus software, to prevent their children from exposure to bad information and network attacks. Parents should teach children to pay attention to privacy settings when using

digital apps, such as setting privacy options such as only friends visible on social media to protect their personal information.

3.5 Pay attention to children's physical and mental health development

3.5.1 Pay attention to the child's vision protection

Parents should supervise their children's eye habits, remind them to keep the correct reading and writing posture, and control the time they use digital devices. For example, every 30 minutes of using an electronic device, let the child rest for 5-10 minutes, see in the distance or do eye exercises. The light of the home environment should be set reasonably to avoid too bright or too dark light causing damage to the child's eyes.

3.5.2 Promote the overall development of children

Parents should pay attention to the cultivation of their children's social skills, and encourage their children to participate in offline social activities, such as classmate gatherings, community activities, etc. For example, parents can regularly invite their children's classmates to let their children learn how to communicate, share and cooperate with others. Parents should pay attention to the child's mental health; when the child has emotional problems, such as an addiction to digital entertainment or anxiety, depression, and other such emotions, parents should timely find and give correct guidance and can seek the help of professional psychological counselors.

4. Conclusion

Family education under the digital background is full of both opportunities and many challenges. Through the implementation of a series of countermeasures, such as improving parents 'digital literacy, strengthening digital education guidance for children, narrowing the digital divide, protecting children's network security and privacy, and paying attention to children's physical and mental health development, the quality of family education under the digital background can be effectively improved. Families, schools, communities and governments should work together to actively respond to the changes brought about by digitalization and create a good educational environment for children's healthy growth in the digital age.

Acknowledgement

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