

Advantages and Limitations of Information Technology in Preschool Education Teaching

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Abstract. With the progress of society and economic development, the innovation of information technology is rapidly changing our way of life and work. This change not only affects adults but also deeply influences our children, especially those in the early stages of education. The application of information technology in preschool education can greatly enrich educational content and provide diverse teaching methods. Through multimedia forms such as animations, music, and videos, teachers can vividly impart knowledge to young children and stimulate their interest in learning. At the same time, information technology can help teachers better understand each child, know their learning needs and individual characteristics, and thus formulate more suitable teaching plans for their growth. However, in practical application, the integration of information technology and preschool education also faces some challenges. Therefore, teachers should clarify the positioning of information technology as an auxiliary tool that cannot replace traditional educational methods. While using information technology, teachers should strengthen interaction with young children and pay attention to their emotional needs.

Keywords: Preschool Education; Information Technology; Application Strategies.

1. The Application Advantages of Information Technology in Preschool Education

1.1. Expanding Teaching Space

The application of information technology in preschool education has opened a door to a vast world of knowledge for children. Traditional educational methods are often limited to classrooms and textbooks, while information technology allows learning to break through these constraints, enabling children to access a broader and deeper range of knowledge [1]. Through multimedia technology, children can learn in a more vivid and imaginative way. For example, through forms like videos and animations, abstract concepts can be visually presented, enhancing their interest and curiosity in learning. Additionally, multimedia technology is conducive to cultivating children's imagination and creativity, allowing them to grow through exploration and discovery. Network technology provides children with an infinite learning space, allowing access to various online educational resources such as learning websites and online courses. These resources are not only diverse but also updated rapidly, meeting the constant knowledge-seeking needs of young children. Furthermore, network technology promotes collaborative learning, enabling children to engage in online communication and discussion with peers and teachers, fostering their collaborative and communication skills. Information technology plays an increasingly important role in preschool education, providing young children with a broader learning space and promoting their comprehensive development. As educators, we should actively explore the application of information technology in preschool education, fully leverage its advantages, and create a better learning environment for young children.

1.2. Enriching Teaching Methods

With the rapid development of information technology, there has been a profound change in the teaching methods of preschool education. Information technology provides powerful tools for visualizing abstract information, as shown in Table 1, making the presentation of knowledge more vivid and interesting. Through various forms such as images, sounds, animations, etc., it opens up a colorful world of knowledge for young children, allowing them to learn in joy and grow through exploration[2]. The application of information technology in preschool education diversifies teaching



methods. Traditional preschool education often relied on teachers' oral explanations and simple teaching aids, while the application of information technology makes teaching more vivid, dynamic, and interesting. Through vivid images and animations, young children can intuitively understand abstract concepts and knowledge. Information technology also brings more interactivity and participation to preschool education. Through interactive learning software and applications, children can learn through games and practical activities to master knowledge. This teaching method can stimulate children's interest in learning and curiosity, encouraging them to actively participate in the learning process. Information technology provides teachers with more teaching resources and tools. Through networks and databases, teachers can access a large amount of educational resources such as courseware, lesson plans, videos, etc. These resources not only serve as teaching references but also help improve the quality and effectiveness of teaching. At the same time, information technology provides teachers with more platforms for communication and collaboration, allowing them to share teaching experiences and methods with other teachers, collectively improving teaching standards.

Table 1. Teaching Methods and Descriptions

| No. | Teaching methods | Description |
|-----|-------------------------------|---|
| 1 | Image | Knowledge is presented through vivid images to visualize abstract concepts |
| 2 | Sound | The use of sound to convey information and emotions enhances the auditory experience of young children |
| 3 | Animation | Natural phenomena and motion processes are simulated through animation to make knowledge more intuitive and easy to understand |
| 4 | Interactive Learning Software | Provide interactive learning software, so that children learn in the game, improve practical ability and exploration spirit |
| 5 | Teaching Resources | Teachers obtain teaching resources such as courseware, lesson plans and videos through the network and database to improve the quality and effect of teaching |

2. Limitations of the Application of Information Technology in Preschool Education Teaching

2.1. Dependency on Information

Excessive reliance on information technology in preschool education may have certain impacts on the overall development of young children. Technological dependence may gradually diminish children's interest in traditional learning methods, such as reading physical books and engaging in manual crafts. These traditional learning methods can cultivate fine motor skills, creativity, and imagination in children, which information technology cannot replace[3]. Excessive use of electronic devices may also lead to visual fatigue in children, affecting visual development. Children are in a critical period of physical development, and prolonged screen time can cause eye fatigue and potential damage to the neck and wrists. In addition, excessive use of information technology may limit children's opportunities for hands-on experience and firsthand exploration, affecting their perceptual and cognitive development. Therefore, teachers should fully consider the impact of information technology on the comprehensive development of young children when using it, reasonably allocate the proportion of information technology in teaching, and avoid excessive dependence. At the same time, teachers should encourage children to try various learning methods, such as reading, manual crafts, outdoor activities, etc., to promote their comprehensive development. The application of information technology in teaching preschool education is a double-edged sword. Only through moderate and reasonable use of information technology can its advantages be fully utilized to promote the healthy growth of young children.

2.2. Technology Screening

The vast sea of online information contains numerous contents unsuitable for young children. Children are in a critical period of physical and mental development, and their cognitive abilities and judgment are not fully mature, making them susceptible to the influence of inappropriate information. Therefore, teachers and parents need to screen and guide the online content that children are exposed to, ensuring that they access healthy and beneficial information. On one hand, teachers and parents need to supervise children's online activities, understanding the content they are browsing. For content unsuitable for young children, such as violence, pornography, or vulgarity, it should be filtered out promptly to avoid adverse effects on children[4]. At the same time, teachers or parents need to guide children in viewing online information correctly, cultivating their information literacy and critical thinking, enabling them to discern the authenticity and quality of information. On the other hand, teachers and parents can collaborate with children in selecting online content, choosing learning resources suitable for them. For example, watching educational animations, listening to children's stories, and reading beneficial e-books together. This not only enriches children's learning experiences but also enhances interaction and communication between teachers, parents, and children. When guiding and screening the online content that children are exposed to, teachers and parents should consider the characteristics of children's physical and mental development, take effective measures, and ensure that they can enjoy the convenience and fun of the internet in a healthy and safe manner.

3. Application Strategies of Information Technology in Preschool Education Teaching

3.1. Respecting the Subject Position of Children

Interest is the most powerful driving force for children's learning. When children develop a strong interest in the knowledge explained by teachers, they will actively participate in learning, significantly improving the quality and efficiency of classroom teaching. Children are naturally lively, active, and love to play, and they are easily influenced by interest, emotion, and mood during the learning process. Therefore, to improve children's learning effectiveness, teachers should combine the actual development of children, reasonably apply information technology, and fully respect the subject position of children, designing teaching activities based on their interests and needs. By using information technology, teachers can create a lively and interesting learning environment for children, stimulating their interest in learning and making them more actively involved. Additionally, teachers can use information technology to present knowledge content to children in the form of interesting videos, pictures, etc. This intuitive and vivid teaching method can better capture children's attention and enhance their interest in learning. Through dynamic demonstrations and interactive teaching methods, teachers can guide children to explore, discover, and think actively, fostering their ability for independent learning and exploratory spirit. Therefore, teachers should fully respect the subject position of children during the teaching process, utilize information technology to create a lively and interesting learning environment for children, laying a solid foundation for their comprehensive development.

3.2. Conducting Diverse Teaching Activities

To promote the comprehensive development of children, teachers should engage in diverse teaching activities. Information technology provides immense possibilities for this, allowing teaching activities to break free from traditional modes and achieve diversity in form and content, as illustrated in Table 2. Gamification learning is one such teaching method that is popular among young children. By ingeniously incorporating learning objectives into games, teachers can help children grasp new knowledge and enhance their interest in learning while playing. Interactive questioning and answers is an effective knowledge transmission and feedback mechanism. Utilizing information technology, teachers can set various problem scenarios, guiding children to think and express their opinions. This teaching method not only helps consolidate children's knowledge foundation but also cultivates their

critical thinking and communication skills. Simulated experiments are a delightful teaching activity that enables children to experience the process of scientific exploration by simulating real experimental scenarios, deepening their understanding of scientific principles. This teaching method not only sparks children’s interest in science but also nurtures their observational skills and experimental abilities. Additionally, information technology provides teachers with abundant online resources and learning tools, such as various educational software, online courses, and multimedia materials. These tools and resources can assist teachers in designing and implementing teaching activities more effectively. By utilizing information technology to conduct diverse teaching activities, teachers can fully stimulate children’s interest and initiative in learning, promoting the development of various abilities and qualities.

Table 2. Forms of Diverse Teaching Activities

| Form of activity | Technology application | Main Purpose |
|-----------------------------------|--|--|
| Gamification learning | Educational software, interactive game platform | Improve learning interest, skill practice and consolidation |
| Interactive Questions and Answers | Online teaching platform, instant messaging tools | Knowledge feedback, thinking training, communication expression |
| Simulated experiment | Virtual experiment platform, augmented reality technology | Understanding of scientific principles, observation and experimental skills training |
| Online Resources and Tools | Educational resources website, multimedia material library | Teaching assistance, creative thinking and problem-solving ability training |

3.3. Enhancing Teacher Professional Literacy

To better leverage the role of information technology in preschool education, improve teaching quality and effectiveness, strengthening teacher training and technical support is crucial. Teachers are guides in the process of children’s learning and growth, and their information literacy and technological application ability directly affect the implementation effect of information technology in preschool education. Therefore, it is essential to prioritize information technology training for teachers, enhancing their information literacy and technological application ability. In practice, conducting information technology training is a vital approach to improving teacher information literacy. The training content should cover the application of information technology in preschool education, the design and production of digital teaching resources, and the skills of creating multimedia courseware. Through systematic training, teachers can understand the advantages of information technology in education, master relevant skills, and better integrate information technology into daily teaching. Strengthening communication and sharing among teachers is also an important way to enhance teacher information literacy[5]. Organizing teaching exchange activities for teachers to share their experiences and insights in the application of information technology to teaching, discussing the development trends and prospects of information technology in preschool education. Through communication and sharing, teachers can learn from each other, mutually promote, and collectively improve information literacy and technological application ability. Only by continuously enhancing teacher information literacy and technological application ability can the role of information technology in education be better realized, and the quality and effectiveness of preschool education be improved.

4. Conclusion

In conclusion, with the rapid development of technology, China’s technological level has reached unprecedented heights. Modern information technology, as an essential component of technology, has deeply penetrated into various fields and plays an indispensable role. Especially in the field of education, the influence of information technology is significant. It has not only transformed traditional teaching methods but also enhanced teaching effectiveness, making education more in line

with the demands of contemporary society. As the foundation of education, preschool education holds a crucial position in human growth.

However, the application of information technology in preschool education also has certain limitations. Over-reliance on information technology may lead children to neglect real-world experiences, resulting in unintended consequences. Therefore, when setting educational goals and organizing teaching activities, preschool teachers should give information technology a proper position, integrate it into daily teaching, gradually stimulate children's interest in learning, enhance their learning enthusiasm, encourage active participation in classroom activities, cultivate children's autonomous learning abilities, and provide high-quality services for the conduct of preschool education activities to meet the comprehensive developmental needs of children in the future.

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