

Fusion New Start: Exploring the Digital Pathways of Preschool Education under the Theory of Multifaceted Interests

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Abstract

In the context of the digital age, preschool education is undergoing numerous changes. Technology brings a duality, providing opportunities while also concealing underlying issues. In the realm of cultivating multifaceted interests in preschool children, the existing digitalization of preschool education offers convenience to teachers and diversifies educational content, but it also presents certain problems. To better adapt to these challenges, preschool educators can achieve the comprehensive development of preschool children through personalized interest assessments and educational planning, multidimensional integration of digital educational resources, and the creation of interactive digital teaching environments.

Keywords

Multi-faceted Interest Theory; Preschool Education; Digital Intelligence; Path Exploration.

1. Introduction

Preschool education plays a crucial foundational role in the early development of children. It is a key cornerstone in children's early development. In terms of cognitive development, the preschool period is a vital time for children's intellectual growth. For instance, engaging in fun activities can stimulate potential and help children initially build logical thinking and observation skills in a rich environment. The preschool period is also a golden age for language development; in a preschool educational setting, children interact with others, which can rapidly increase their vocabulary and enhance their expression and comprehension abilities. In terms of social-emotional development, preschool education provides a social space for children. Here, children learn social skills such as sharing and cooperation, and under the guidance of teachers, they can recognize their own emotions, establishing early emotional management and self-awareness, which has profound significance for their future development. Currently, the wave of digital intelligence is rising, and its comprehensive penetration into the education sector, especially preschool education, is evident in teaching methods, teaching resources, teaching management, and teacher quality. Moreover, the relationship between digital intelligence and multi-faceted interest theory is complementary, mutually supportive, and influential. Digital intelligence brings a rich variety of educational resources and forms, while multi-faceted interest theory can guide preschool education to fully utilize these resources. For example, with the help of digital intelligence technology, teaching can better stimulate children's interest in various fields such as art and science, enhancing children's motivation to learn and promoting comprehensive development through engaging digital presentations. Furthermore, digital intelligence supports personalized education, and multi-faceted interest theory emphasizes individual differences. By combining digital intelligence technology, it can meet the interest needs of different children, develop personalized learning plans, increase learning enthusiasm, and improve the overall effectiveness of preschool education in the context of digital transformation. This study explores the development path of

digital intelligence suitable for preschool education based on multi-faceted interest theory, aiming to enrich preschool education theory, enhance the quality of preschool education, and promote the comprehensive development of children.

2. The Connotation and Significance of Herbart's Theory of Multiple Interests

In the history of Western education, Herbart was the first educator to clearly define the concept of interest and to conduct specialized research on it within a scientific framework. Herbart believed that 'interest' refers to active psychological engagement, which also implies self-activity; it is the inner drive of human consciousness, standing in contrast to 'indifference.' [1] Thus, it is evident that interest arises from internal growth rather than external pressure, representing the subjective inclination of the individual. Individuals experience positive effects due to their interests, which better motivates them to complete tasks or activities, and may even lead to outstanding performance in those activities.

Interest not only possesses proactivity, but Herbart also pointed out that it has multiple dimensions. Based on the psychological states of interest, Herbart categorized multiple interests into two parts: cognition and emotion, which include experiential interest, speculative interest, aesthetic interest, sympathetic interest, social interest, and religious interest. Experiential interest refers to the interest in observing and understanding individual phenomena in nature and the surrounding environment, an interest in discovering what things 'are.' Speculative interest refers to the interest in contemplating 'why' things are. Aesthetic interest pertains to the evaluation of beauty and ugliness, good and evil, derived from experiencing things. Sympathetic interest refers to feelings towards a certain range of people. Social interest is the interest in society, empathy for one's own nation, and all of humanity. Religious interest refers to the cultivation of respect and filial piety, as well as interests related to theology.

Herbart established a relevant curriculum system based on multiple interests. Different subjects were categorized according to various interests, remaining independent yet interconnected. This series of classifications further inspired educators to consider education from the perspective of the internal growth of students, promoting the psychological aspect of education. The theory of multiple interests laid the foundation for a broad range of curriculum content and provided direction. These curricula also aligned with the practical needs of productivity development during the industrial era, establishing the basic form of modern general education curriculum systems.

3. Characteristics of Preschool Children's Diverse Interests and Educational Needs

3.1. Characteristics of Preschool Children's Diverse Interests

Preschool children also possess diverse interests, and their interests in cognition, emotion, and movement have unique expressions. Cognitively, they are curious about everything, showing a strong interest in the plants and animals of the natural world, peculiar puzzles, or toys that make sounds, and they enjoy exploring questions of what and why. Emotionally, they are easily drawn to interactions filled with love, such as warm hugs and encouraging words from teachers and parents, and they also show affection for kind characters in stories. In terms of movement, preschool children enjoy activities like running, jumping, and climbing, as well as drawing and paper-cutting, which allow them to freely express and release their inner thoughts.

3.2. The Development of Preschool Children's Diverse Interests and Its Educational Needs

Firstly, the development of preschool children's diverse interests requires preschool educators to clarify educational objectives—cultivating preschool children's interests and fostering their creativity in an interest-oriented manner. While nurturing the diverse interests of preschool children, educators must also pay attention to individual differences among children, seeking individuality within commonality and striving for personalized development. Education should emphasize preschool children's autonomy, respecting their voices and choices, and not stifling their enthusiasm.

Secondly, the development of preschool children's diverse interests requires preschool educators to reasonably set educational curriculum content. Based on the development of preschool children's diverse interests, the curriculum should present diversity. While aligning with preschool children's cognitive experiences and age stages, the educational content should be made vibrant through an integrated curriculum approach, transforming the curriculum from being singular to being engaging, which will further stimulate preschool children's intrinsic motivation and enhance their focus.

Finally, the development of preschool children's diverse interests requires preschool educators to implement interest-based teaching methods. As Tolstoy said, 'If students have no desire, no interest, no enthusiasm to learn, then effective mastery of knowledge cannot be discussed.' [2] Thus, interest is also a teacher for preschool children; preschool educators must first pay attention to preschool children, be adept at discovering their interests, and effectively guide the combination of direct and indirect interests through diversified teaching in actual instruction, ultimately achieving the internalization and absorption of knowledge.

4. Analysis of the Current Situation of Digital Intelligence in Preschool Education

4.1. The Current Application of Digital Intelligence Technology in Preschool Education

Wang Yanlei pointed out: "Whether it is the innovation of educational models or the prosperity of the educational ecosystem, digital intelligence technology will become a key lever." [3] It is evident that digital intelligence technology is closely integrated with education, forming a cohesive whole. Currently, digital intelligence technology is gradually being applied in preschool education, with multimedia online education platforms being the most widely used, utilizing online resources to make education more dynamic and visible. Next are smart interactive voice toys; toys are the direct contact objects for preschool children, and the integration of toys with digital intelligence technology makes the teaching methods in preschool education more diversified, with toys also serving as teachers. Specifically, digital intelligence tools have various applications and scenarios in preschool education. For example, in some economically advanced urban kindergartens, both teachers and preschool children are equipped with smart tablets, allowing them to interact and respond during class, thereby expanding preschool children's knowledge reserves at any time. Additionally, activity rooms are equipped with motion-sensing gaming devices, where children can follow game instructions to jump, stretch, and move during relevant activities, such as experiencing individual life journeys or participating in fire rescue games, immersing preschool children in the experience and stimulating their creativity.

4.2. Existing Issues in Digital Intelligence in Preschool Education

Technology presents us with dual aspects; while it offers opportunities, we must also consider the hidden problems behind it. Similarly, the current digital intelligence in preschool education

provides convenience for teachers and diversifies educational content, but there are also some issues.

First, the content of digital education is not very suitable. Some digital educational materials tend to be overly adult-oriented or urbanized. For example, the characters and scenarios in some digital educational resources may be designed more from an adult perspective, distancing themselves from the actual lives of children, especially for rural children. This disconnect from the realities of their lives leads to difficulties in understanding and poor educational outcomes for preschool children in rural areas.

Second, teachers' use of digital teaching methods is superficial. Some teachers, when using digital tools for teaching, do not recognize the vast and invisible educational network behind the technology. They simply use digital media to play PowerPoint presentations or videos without fully exploring the potential of digital tools. For instance, in early mathematics education, they may only have children identify numbers on a PowerPoint slide without guiding them to understand the practical significance behind those numbers. The content of the PowerPoint presentations is also often very superficial and lacks depth. Additionally, the multifunctionality of smart tablets may attract preschool children and distract their attention rather than focusing on the learning content.

5. Constructing A Digital Path for Preschool Education Based on Multifaceted Interest Theory.

5.1. Personalized interest assessment and educational planning.

Han Bo pointed out: "Artificial intelligence analyzes and understands students' learning conditions through big data and machine learning technology, integrating data related to each student's learning habits, progress, and interests, clarifying the student's learning strengths and weaknesses, and providing suitable learning methods for individual students, helping them adjust their learning strategies in a timely manner to meet the different educational needs of each student." [4] In the field of preschool education, digital tools can also be used to track and assess the multifaceted interests of preschool children. Based on the assessment results, a more defined educational content-oriented personalized digital education plan can be developed, including course selection and activity arrangements, allowing preschool children with different intelligences to develop accordingly. For example, for preschool children who like to ask why, we can use digital tools to help track their behavior to increase experiential interest, and for these children, more nature exploration experience courses can be designed for more targeted teaching.

5.2. Integration of multidimensional digital education resources

Wang Youqing and others pointed out: "The rapid advancement of digitalization under the AI background is prompting significant changes in many industries. The integration of digitalization and intelligence empowers the integration of professional industry education, which can expand the connotation of industry-education integration in teaching models, educational management, teaching evaluation, etc., and has significant implications for promoting the high-quality development of vocational education talent cultivation." [5] Industry-education integration also provides new ideas for preschool educators, integrating new insights and utilizing digital technology to integrate multidimensional digital education resources covering various interest areas such as art, science, language, and society. Through technological means, efficient integration and precise delivery of educational resources can be achieved. For example, kindergartens can collaborate with communities, enterprises, museums, etc., using digital technology to integrate social educational resources, conducting research

studies, online visits, etc., to provide children with richer practical experiences, learning and doing in practice.

5.3. Creation of an interactive digital teaching environment

Ma Fei pointed out: "Digital intelligence technology extends the spatial range of teaching practice, making the teaching space a ubiquitous space where technology deeply participates, integrating virtual and physical, presence and absence interactively." [6] In the era of digital intelligence, advanced digital technologies connect various objects in the physical world, forming a vast network of everything. The originally independent spatial boundaries of things are broken, allowing them to interweave and connect with each other. The environment is the first 'teacher' for preschool children, thus the creation of teaching scenarios in preschool education is particularly important. Digital intelligence technology provides the possibility to construct an interactive teaching environment. For example, in VR and AR virtual scenarios, children can choose themes they are interested in for play, truly putting children in the lead. With the help of digital intelligence technology, it not only stimulates and meets preschool children's needs in various interests but also plays the guiding role of teachers.

6. Conclusion

In the era of digital intelligence, preschool educators can cultivate preschool children's diverse interests through personalized assessment, multidimensional integration, and the creation of interactive environments. Furthermore, the continuous development of digital intelligence technology in the field of preschool education has broad prospects. In terms of technological development, it will be more personalized and precise, with closer connections to families, achieving home-school co-education. For the cultivation of children's diverse interests, it can comprehensively stimulate cognitive interests and provide rich interdisciplinary knowledge. Emotional interaction abilities will become more nuanced, better responding to children's emotions. In terms of motor development, it will expand more diverse experiences, fully meeting the developmental needs of children's interests.

Acknowledgment

This research is funded by the Graduate Innovation Fund of Sichuan University of Science & Engineering 2024 - Fusion New Start: Exploring the Digital Pathways of Preschool Education under the Theory of Multifaceted Interests. [Project No.: Y2024141]

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