

Innovative Practice of Kindergarten Teacher-Child Interaction Mode Driven by Digital Technology

Qiao Wang

Muchun Campus of Chenggong District No.3 Kindergarten, Kunming 650500, Yunnan, China

Abstract: With the comprehensive advancement of educational digitalization strategy, digital technologies such as artificial intelligence, augmented reality, big data analysis and interactive projection have been gradually integrated into the daily teaching and game scenarios of kindergartens. Teacher-child interaction is the core carrier of preschool education teaching and the key link to realize children's physical and mental development, personality shaping and cognitive growth. Traditional kindergarten teacher-child interaction is limited by single scene, lagged feedback and empirical judgment, which is difficult to meet the personalized and diversified growth needs of contemporary young children. Based on the background of digital transformation of preschool education, this paper systematically analyzes the internal logic and value connotation of digital technology empowering kindergarten teacher-child interaction, summarizes the practical dilemmas existing in the current interactive mode, including solidified interactive scenarios, insufficient personalized interaction, single evaluation dimension and alienation of humanistic temperature caused by technology abuse. Combined with the practical application scenarios of digital technology in front-line kindergartens, this paper explores innovative practical paths from interactive scene reconstruction, personalized interactive mechanism optimization, digital evaluation system construction and humanistic education return. The study aims to provide practical reference and theoretical support for kindergartens to build high-quality digital teacher-child interaction mode, promote the deep integration of digital technology and preschool education, and realize the high-quality development of preschool education.

Keywords: digital technology; kindergarten; teacher-child interaction; educational innovation; preschool education; interactive mode

1. Introduction

Preschool education is the starting point of lifelong education, and high-quality teacher-child interaction is the core standard to measure the quality of preschool education. In the traditional preschool education model, teacher-child interaction mainly relies on offline verbal communication, behavioral guidance and scene interaction in fixed classrooms and activity areas. The interaction process is mostly dominated by teachers, with single interaction form and limited scene expansion space. Teachers' judgment on children's state, interest changes and growth progress mostly depends on daily teaching experience, which cannot accurately capture the subtle behavioral changes and individual needs of each child, resulting in the inability to achieve precise and personalized educational interaction.

2. The Innovative Value and Connotation of Digital Technology Empowering Kindergarten Teacher-Child Interaction

2.1 Break Spatial and Temporal Limitations and Enrich Interactive Scenarios

Traditional kindergarten teacher-child interaction is limited by fixed classroom space and single activity form, and the interactive scenarios are mostly concentrated in collective teaching, regional games and daily life management, with low flexibility and expansion. Digital technology builds an immersive and diversified interactive scene system for preschool education. Relying on AR virtual simulation, interactive projection, digital sand table and other technologies, kindergartens can create diversified interactive scenes such as natural exploration, traditional culture experience, scientific inquiry and role-playing that are difficult to realize in traditional teaching^[1].

2.2 Realize Precise Education and Optimize Personalized Interactive Mechanism

Young children have distinct individual differences in cognitive level, interest preference, emotional expression and interactive habits. Traditional teacher-child interaction adopts unified interactive mode and educational guidance, which is difficult to adapt to the individualized growth needs of different children. Digital technology realizes quantitative recording and intelligent analysis of children's interactive behaviors through big data statistics and AI intelligent monitoring technology.

2.3 Promote Role Transformation and Reshape Two-Way Interactive Relationship

In traditional preschool education interaction, teachers are always in the dominant position of activity arrangement and content output, and children are in a passive accepting state, resulting in unbalanced interactive relationship and insufficient children's subjective

initiative. The application of digital technology reshapes the subject relationship between teachers and children. In digital interactive scenarios, children can independently choose game themes, exploration directions and interactive modes according to their own interests, giving full play to their subjective initiative^[2].

3. Practical Dilemmas of Digital Technology Empowering Kindergarten Teacher-Child Interaction

3.1 Rigid Technical Application and Superficial Interactive Effect

At present, most kindergartens have basically completed the digital hardware layout, but there is a widespread problem of “heavy hardware, light application”. Many teachers lack systematic digital teaching literacy and professional technical application ability. In the process of carrying out digital interactive activities, they simply use digital equipment to replace traditional blackboard teaching and manual games, and mechanically apply fixed digital courseware and interactive programs.

3.2 Excessive Dependence on Technology and Lack of Humanistic Temperature in Interaction

Preschool education takes emotional cultivation and personality shaping as the core goals, and warm face-to-face emotional interaction is the core charm of preschool education. In the process of digital interactive practice, some teachers over-rely on intelligent equipment and data monitoring systems, and gradually reduce face-to-face communication and behavioral care with children. They judge children’s growth state and interactive effect entirely through digital data, ignoring children’s subtle emotional changes and individual emotional needs that are difficult to quantify by data^[3].

3.3 Imperfect Digital Evaluation System and Fragmented Interactive Mechanism

At present, the digital evaluation of kindergarten teacher-child interaction is not perfect. Most evaluation systems only focus on the quantitative data of interactive frequency and participation, and lack qualitative evaluation indicators such as children’s emotional experience, thinking growth and interactive effectiveness. The evaluation dimension is single, which cannot comprehensively and objectively reflect the real effect of digital teacher-child interaction.

4. Innovative Practical Paths of Digital Technology Driving Kindergarten Teacher-Child Interaction Mode

4.1 Optimize Technical Application Mode and Build Integrated Interactive Scenarios

Kindergartens should abandon the simplistic technical superposition mode, take children’s growth laws and educational goals as the core, and realize the in-depth integration of digital technology and teacher-child interactive activities. Teachers should take digital equipment and intelligent systems as auxiliary tools for education and teaching, flexibly design diversified digital interactive scenes according to the characteristics of children’s age and curriculum content, and integrate digital exploration, immersive experience and intelligent interaction into daily games, curriculum teaching and life guidance.

4.2 Adhere to Humanistic Education Orientation and Realize the Integration of Technology and Temperature

Technology serves education, and humanistic care is the essential attribute of preschool education. Kindergartens should clarify the auxiliary positioning of digital technology, avoid excessive technical dependence, and always take emotional communication and children’s personality growth as the core of teacher-child interaction. In daily interactive work, balance the proportion of digital intelligent interaction and manual emotional interaction, take digital data analysis as the basis for auxiliary judgment, and take face-to-face emotional communication, behavioral guidance and spiritual companionship as the main interactive form^[4].

4.3 Improve Digital Evaluation and Collaborative Mechanism to Form Continuous Interactive Synergy

Kindergartens should build a diversified and comprehensive digital evaluation system for teacher-child interaction, combine quantitative data evaluation with qualitative effect evaluation, and enrich evaluation indicators covering children’s interactive participation, emotional experience, cognitive improvement, social growth and teacher’s interactive guidance effect. Realize comprehensive monitoring and objective evaluation of the whole process of digital teacher-child interaction, and provide data support and optimization direction for the continuous improvement of interactive quality.

4.4 Strengthen Teacher Literacy Training and Improve Professional Interactive Ability

Teacher’s digital literacy and interactive ability are the key factors restricting the innovative development of digital teacher-child interaction. Kindergartens should establish a long-term and systematic teacher training mechanism, carry out targeted training around digital technology application, digital scene design, data analysis and personalized interactive guidance, and help teachers master professional digital education skills.

5. Conclusion

Digital technology provides a new path and technical support for the innovative development of kindergarten teacher-child interaction mode, and effectively makes up for the deficiencies of traditional interaction modes in scene expansion, personalized guidance and precise education. The innovation of digital teacher-child interaction mode is not the simple technical iteration and equipment update, but the systematic reform of interactive concept, interactive scene, interactive mechanism and evaluation system under the guidance of child-oriented education concept.

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