Original Paper

Research on Optimization Strategy of Home and School Co-Education Model under the Background of Knowledge Fragmentation

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Abstract

Against the backdrop of digitalization and media convergence, knowledge is becoming increasingly fragmented, structurally impacting collaborative home-school education models and knowledge transfer mechanisms. This study examines how knowledge fragmentation affects communication effectiveness and the scientific systematization of parenting knowledge in home-school collaboration. From a systemic integration perspective, it proposes a multi-tiered optimization strategy: 1) Systematically organizing fragmented knowledge through goal-oriented approaches; 2) Establishing a tripartite screening mechanism comprising theoretical frameworks, knowledge integration platforms, and serialized micro-courses; 3) Achieving deep knowledge integration via thematic video resource development, scientific cognitive guidance, and contextualized discussions. The paper emphasizes that while leveraging fragmented knowledge, systematic learning guidance should be strengthened to advance home-school collaboration from information coordination to intelligent symbiosis.

Keywords

knowledge fragmentation, home-school collaboration, fragmented learning, educational strategies, resource integration

1. Introduction

The "Guidelines for Kindergarten Education (Trial)" (hereinafter referred to as the "Guidelines") explicitly states: "Families are crucial partners in kindergartens. We should adhere to the principles of

respect, equality, and cooperation, striving to gain parents 'understanding, support, and active participation, while actively assisting them in enhancing their educational capabilities." (Ministry of Education, 2001) This underscores the vital role of home-kindergarten collaboration in preschool education, which is indispensable for achieving children's holistic development. In today's rapidly evolving digital landscape, where information updates swiftly and knowledge is often presented in fragmented forms, fragmented learning has become a primary learning method for most people in the information age. To extract valuable content from this vast sea of fragmented information, learners must effectively mine, filter, organize, and integrate knowledge fragments, transforming them from a disorganized state into a structured knowledge system.

2. Problem Statement

In the digital age of rapid technological advancement, fragmented knowledge has flooded into society like a tidal wave. For early childhood parents, online parenting resources have become the primary learning channel. The "Internet+" trend has particularly fueled the rise of bite-sized learning methods, creating a demand for stronger home-school collaboration. Most parents today belong to the post-90s and post-00s generations, whose learning habits are shifting from traditional print materials to digital platforms for modular education. While this flexible approach offers convenience, it often results in fragmented, disorganized, and superficial knowledge. The lack of communication channels between parents and teachers, coupled with insufficient professional guidance, has created a significant disconnect between home education and kindergarten programs, ultimately undermining the effectiveness of collaborative parenting efforts.

3. The Challenge of Fragmented Knowledge to Home and School Co-education

Home-kindergarten collaboration refers to a collaborative educational model where educators, parents, and the community jointly assume educational responsibilities, fostering two-way interaction and cooperative efforts. This includes parents actively participating in kindergarten activities, supporting school arrangements, and volunteering, as well as the kindergarten providing educational guidance and support to parents. (Gong, 2020) In this study, the home-kindergarten collaboration strategy refers to a scientific and standardized approach where both the kindergarten and families leverage their respective strengths, with parents actively cooperating with the kindergarten's educational work and the kindergarten proactively offering professional guidance to parents, thereby jointly promoting the comprehensive development of children.

3.1 Impact on the Effectiveness of Home-School Communication

Reasonable and effective communication is one of the most important strategies in home-school cooperation. Traditional home-school communication often involves teachers directly providing feedback on children's development and offering educational suggestions to parents. Although this approach has been controversial due to the excessive authority of teachers, it is undeniable that such

52

communication is effective. When parents fully trust the teachers, it often yields good results.

The internet's information explosion has scattered parenting knowledge across various platforms, diversifying parents' access to content. Interactive platforms like WeChat, Weibo, QQ, and Baidu have become their go-to "textbooks." Differences in cognitive patterns and perspectives lead parents and teachers to interpret the same parenting advice in starkly different ways. Some parents, relying on fragmented online information, question teachers 'professional judgments or even dismiss their expertise outright. Over time, this creates a cycle where teachers either avoid meaningful communication with parents or treat it as a mandatory "task," failing to genuinely foster children's development.

3.2 Impact on the Scientificity of Parenting Knowledge

For home-based education to take root, it must be grounded in scientific parenting knowledge. This knowledge should not only have theoretical foundations but also be objective and free from subjective assumptions, while aligning with the natural development of young children's physical and mental growth, thereby guiding educational practices. In traditional settings, kindergartens primarily rely on parent lectures and expert seminars to convey systematic and scientific parenting concepts. Although these formal channels are limited, parents highly value them and actively participate. Over time, this fosters alignment between families and kindergartens in their understanding of child development and educational approaches, ultimately building consensus on collaborative parenting through shared understanding.

In this age of easily accessible fragmented knowledge, parents often dismiss carefully planned kindergarten activities due to oversimplified information. With virtually zero barriers to online content distribution, unverified messages proliferate widely—shared materials either lack factual basis or are sensationalized for attention. Limited in professional knowledge, parents struggle to verify information accuracy and tend to adopt unscientific parenting methods. This not only undermines educational effectiveness but also erodes the scientific foundation of home-school collaboration.

3.3 Impact on the System of Parenting Knowledge

The fragmentation of knowledge has significantly challenged the systematic nature of parenting education. This systematic approach typically involves a well-structured framework with logical progression, grounded in the developmental characteristics of young children and educational psychology to form a cohesive knowledge system. In traditional home-school collaboration models, kindergartens systematically communicate parenting strategies to families through channels like communication boards, parent handbooks, and regular parent-teacher meetings. These materials are organized around educational themes and seasonal changes, ensuring a coherent delivery of parenting guidance.

In the context of fragmented knowledge, home-school collaboration equips parents with abundant parenting knowledge but hinders effective integration. The widespread use of instant messaging tools like WeChat and QQ has led some educators to neglect traditional home-school communication boards,

53

instead opting to share online parenting articles or short videos in parent groups to fulfill their "collaborative duties." While this approach is quick, convenient, and timely, it results in increasingly fragmented knowledge dissemination. Such fragmented knowledge often appears disjointed and contradictory, lacking systematic coherence. This makes parents prone to cognitive overload and information overload. The emergence of conflicting opinions may leave parents confused or swayed when making educational choices, thereby undermining the systematic support function of home-school collaboration in knowledge dissemination. (Fang & Tan, 2019)

4. Optimization Strategy of Home-school Co-education under the Background of Knowledge Fragmentation

The fragmented learning theory requires learners to develop the ability to extract valuable knowledge fragments from vast amounts of information, and to effectively filter, integrate, and reconstruct knowledge. (Wang, Li, Zhao, & Zhang, 2015) When this core concept is systematically applied to the home-school collaboration field, the goal is to enhance the accuracy, scientific rigor, and efficiency of educational cooperation, thereby establishing a more resilient and adaptive collaborative education ecosystem.

4.1 Systematic Mining of Knowledge Fragments

When dealing with fragmented, unstructured, and loosely connected data, effective information extraction requires both external organizational support and internal focus. This means that information search and acquisition in home-school collaboration should not be aimless or superficial browsing, but must precisely target specific educational issues or children's developmental goals. Teachers and parents should treat each information retrieval as a small-scale "educational project." When addressing specific topics like "child separation anxiety," both parties can collaboratively develop keywords, define content scopes, and systematically search for relevant scientific articles, empirical cases, and expert interpretations. This goal-oriented approach to information search significantly enhances the relevance and effectiveness of information acquisition, ensuring that knowledge obtained from the outset carries clear educational demand tags, thereby laying a solid foundation for subsequent application.

4.2 The Refined Screening of Knowledge Fragments

The first step is to obtain the fragment knowledge, but the more important is to form a filtering mechanism, to remove the impurities and retain the essence, to remove the false information and retain the true information, to avoid the low level, contradiction and even wrong information to influence the educational judgment, which requires the construction of filtering system from the three levels of the concept framework, the sharing platform and the course carrier.

4.2.1 Establishing a Theoretical Framework for Family Education

Educators should leverage their professional expertise to establish or clarify fundamental frameworks for family education. By distilling core principles from diverse approaches like Positive Discipline,

Emotional Guidance, and Montessori, they empower parents to align their parenting choices with both personal values and their child's temperament. This framework becomes an internal compass for information filtering. When parenting tips flood in like a tidal wave, parents can first evaluate whether they align with established principles before deciding to adopt them. This approach prevents blind conformity and helps parents navigate the information overload without losing their way.

4.2.2 Building a Knowledge Integration and Sharing Platform for Home

Kindergartens should proactively integrate fragmented official channels into a systematic knowledge service platform. This platform should not only disseminate information but also serve as an "information gatekeeper" and "knowledge synthesizer." A review panel, comprising key kindergarten teachers, external experts, or parent committee representatives, could be established to screen and verify parenting resources, articles, and videos from the internet before systematically organizing them. The platform should regularly distribute verified scientific resource packages on popular topics of parental concern, such as "winter flu prevention" and "kindergarten-to-primary transition." Additionally, the platform could feature a dedicated Q&A section where teachers or expert teams promptly address practical issues encountered by parents. Through this communication, educational philosophies can gradually align, reducing collaborative barriers caused by information asymmetry or differing perspectives.

4.2.3 Developing a series of micro-courses for home-school collaboration

Micro-lessons function like a string of pearls, weaving together fragmented knowledge points to enable parents to engage in systematic learning during spare moments like commutes or rest periods. (Chen, 2014) In the context of fragmented learning, kindergartens should update their educational resources by aligning with the core principles of the "Guidelines for Learning and Development of Children Aged 3-6" and the "Kindergarten Education Guidelines (Trial)". Drawing on typical developmental characteristics of children at different age stages, they should develop concise micro-lessons that focus on specific concepts or skills, such as "Effective Communication Strategies with Children" or "Addressing Picky Eating in Toddlers". The curriculum development team should include preschool education experts, frontline teachers, and representative parents to ensure the content is scientifically grounded, practical, and actionable.

4.3 Deep Integration and Reconstruction of Knowledge Fragments

The high-quality fragments obtained through screening need to be deeply integrated and personalized reconstructed before they can become the educational wisdom that guides practice, which reflects the process from static information reception to dynamic meaning construction and practice transformation.

4.3.1 Making Thematic Home-school Co-education video Resources

Kindergartens can harness the collaborative enthusiasm of both teachers and parents by addressing a broad, long-term educational theme—such as the "Three-Part Series for Developing Children's Social Skills." This approach involves systematically organizing and refining previously collected fragmented

knowledge—covering theoretical frameworks, methodological steps, and case studies (both positive and negative)—into a cohesive thematic video series. The resulting format not only delivers high information density and strong visual appeal but also maintains internal logical coherence. This helps parents develop a comprehensive understanding of the theme, moving beyond the superficial accumulation of isolated techniques.

4.3.2 Advocating scientific information processing and cognitive mode

Educators should consciously guide parents to develop a rational information processing framework, which can be conceptualized as a closed-loop system of "reception—analysis—integration—verification." Within their existing educational framework, parents should critically evaluate new information against their own philosophies and children's developmental needs, organically integrating effective elements into their cognitive map before applying them in practice. More specifically, this involves training parents to follow cognitive steps: "extracting key concepts—structuring information logically—applying contextually." For example, after learning fragmented knowledge about "resilience education," parents should extract keywords like "safe experiences," "moderate challenges," and "emotional support," then consider how to apply these concepts in various family scenarios (play, learning, daily life), and design a concrete parent-child activity to put them into practice.

4.3.3 Creating a Context for Home-School Collaboration

The social construction of knowledge is crucial. Kindergartens can regularly organize in-depth discussions of real-life cases, debate-style salons, or "parenting story sharing sessions." By addressing controversial parenting topics like "the boundaries of electronic device use," these activities encourage parents and teachers to share perspectives derived from fragmented information. Through equal dialogue, debate, and even cross-examination, participants can discern the value and limitations of different information. Leveraging peer experience sharing and teachers' professional guidance, parents can transition from being "information consumers" to "critical thinkers," thereby developing a more scientific, dialectical, and systematic educational mindset. This profound interactive experience not only enhances cognitive understanding but also significantly strengthens emotional connections and trust between home and kindergarten, fostering stronger collaborative bonds.

4.3.4 The Forgetting of Knowledge Fragments

When we use the fragmented resources, we should be alert to the inherent limitations of the fragmented resources, which are partial, superficial, context-dependent and contradictory. They can be the catalyst to deepen, supplement and update the knowledge, but they can not replace the systematic and in-depth professional learning.

Therefore, teachers' guiding role becomes particularly crucial at this stage. They should help parents develop rational perspectives, treating fragmented online information as convenient "auxiliary reference libraries" and "inspiration sources for problem-solving," rather than regarding it as the "fundamental theoretical cornerstone" of family education. Encourage and create opportunities for

parents to engage in deep reading while pursuing fragmented learning, systematically studying classic works on child development psychology and pedagogy. Actively participate in offline professional training programs like "Parent Schools" and "Systematic Workshops" organized by kindergartens or communities. Only by establishing solid theoretical foundations and forming a macro educational vision can parents possess an accurate "nautical chart." This enables them to calmly navigate, filter, and integrate information in the vast ocean of fragmented knowledge, avoiding anxiety and dependency on superficial information. Ultimately, this facilitates the transition from "information collaboration" to "wisdom symbiosis" in home-school co-education.

5. Conclusion

The advancement of information technology and evolving communication methods have made fragmented learning a predominant educational approach in modern society, presenting both opportunities and challenges for home-school collaboration. The pervasive nature of digital information requires early childhood educators and parents to navigate an environment where knowledge is often decontextualized, inconsistent, and rapidly disseminated. When addressing issues such as communication barriers, compromised scientific rigor, and the erosion of systematic knowledge in early childhood education, professionals must proactively adapt to contemporary trends by updating and refining collaborative strategies. This involves establishing coherent theoretical frameworks to guide information selection, creating integrated and credible resource platforms, and developing structured yet flexible curriculum systems. Such efforts can help transform scattered information into meaningful educational knowledge, fostering more consistent and effective partnerships between families and educational institutions.

Moving forward, it is essential to cultivate critical digital literacy among both educators and parents, enabling them to critically evaluate, synthesize, and apply fragmented information within a broader pedagogical context. Furthermore, ongoing dialogue and collaborative inquiry between home and school should be encouraged to co-construct knowledge that aligns with children's developmental needs. Ultimately, by embracing a more intentional and systemic approach to knowledge integration, home-school collaboration can evolve from merely sharing information to building shared understanding and fostering holistic child development in an increasingly fragmented digital landscape.

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58

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