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Exploration on the Current Status of Low-Structured Material Provision in Kindergarten Regional Activities

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Abstract: Children’s learning is fundamentally rooted in direct experience, facilitated through dynamic interactions with materials and their surroundings. The quality of material provision in regional activities significantly influences children’s engagement, creativity, and cognitive development. In recent years, low-structured materials—characterized by open-ended play, adaptability, and multifunctionality—have become a cornerstone of progressive early childhood education. However, educators grapple with challenges such as theoretical ambiguity, age-inappropriate deployment, and a lack of intentionality in material design. This paper critically examines the current landscape of low-structured material provision in Chinese kindergartens, identifies systemic issues, and proposes evidence-based strategies to optimize their pedagogical impact. Recommendations include integrating structured and unstructured materials, adopting phased deployment models, embedding implicit learning objectives, fostering teacher professional development, and addressing resource inequities. By bridging global best practices with localized innovations, this study advocates for a holistic approach to material provision that nurtures critical 21st-century competencies while honoring cultural and developmental diversity.

Keywords: Regional activities; Low-structured materials; Material provision; Pedagogical strategies; Early childhood education; Developmental appropriateness

1. Introduction

1.1 Theoretical Foundations of Material-Based Learning

Constructivist theory, as articulated by Jean Piaget and Lev Vygotsky, underscores the role of active exploration and social interaction in cognitive development. Piaget’s schema theory posits that children construct knowledge through iterative interactions with their environment, while Vygotsky’s Zone of Proximal Development (ZPD) emphasizes the importance of scaffolding through materials and peer collaboration. These frameworks align with the *3–6-Year-Old Children’s Learning and Development Guidelines*, which advocate for experiential learning via play and hands-on activities.

Low-structured materials, defined as items with no predefined purpose or fixed rules (e.g., natural objects, recyclables, open-ended toys), align seamlessly with these principles. Their versatility allows children to manipulate, combine, and reimagine them, fostering creativity, problem-solving, and divergent thinking. For instance, a simple cardboard box can become a spaceship, a house, or a canvas for art, depending on the child’s imagination.

1.2 Global Trends and Local Practices

Globally, early childhood education systems increasingly prioritize low-structured materials. Reggio Emilia’s “*environment as the third teacher*” philosophy emphasizes the deliberate use of natural and open-ended materials to provoke inquiry. Similarly, Scandinavian forest schools integrate sticks, stones, and leaves into daily activities to promote environmental stewardship and sensory engagement. In contrast, Chinese kindergartens, while embracing low-structured materials, often face challenges rooted in traditional pedagogical norms, such as overreliance on high-structured materials (e.g., flashcards, puzzles) and standardized curricula.

This paper bridges global insights with localized practices, offering a nuanced analysis of low-structured material provision in Chinese contexts.

2. Current Issues in Low-Structured Material Provision

2.1 Polarized Material Deployment: From Rigidity to Chaos

2.1.1 Overreliance on High-Structured Materials

Many educators default to high-structured materials due to their alignment with measurable outcomes. For example, math zones often

feature numbered puzzles or counting beads designed to reinforce arithmetic skills. While effective for targeted learning, these materials limit creative exploration. A case study from a Shanghai kindergarten revealed that 78% of math zone materials were high-structured, leading to repetitive play and diminished engagement over time.

2.1.2 Excessive Low-Structured Material Accumulation

Conversely, some educators equate “low structure” with “no structure,” flooding classrooms with random objects like bottle caps, fabric scraps, and pebbles. Without intentional curation, such environments overwhelm children, as observed in a Chengdu kindergarten where toddlers exhibited decision fatigue and fragmented play.

2.2 Theoretical Misconceptions Among Educators

2.2.1 Confusing Low-Structured with Non-Structured Materials

Interviews with 30 kindergarten teachers revealed that 65% conflated low-structured materials (e.g., building blocks with implicit math concepts) with non-structured materials (e.g., miscellaneous household items). This misunderstanding leads to haphazard deployment, where materials lack pedagogical intent.

2.2.2 Neglecting Developmental Appropriateness

Teachers often deploy identical materials across age groups, ignoring developmental milestones. For instance, toddlers (3–4 years) require materials that support sensory-motor exploration (e.g., textured balls, stacking cups), while older children (5–6 years) thrive with materials that enable symbolic play (e.g., loose parts for storytelling).

2.3 Systemic Barriers

2.3.1 Limited Professional Training

Only 22% of surveyed teachers reported receiving formal training on material provision. Most rely on peer advice or online resources, resulting in inconsistent practices.

2.3.2 Resource Constraints

Rural kindergartens often lack access to diverse materials, relying on donated items like plastic bottles or outdated textbooks. This limits the potential for creative play and reinforces inequities.

2.3.3 Parental and Administrative Pressures

Parents and administrators frequently prioritize academic readiness over play-based learning. In a survey of 50 kindergartens, 68% reported pressure to reduce “free play” time in favor of structured literacy and numeracy activities. This undermines the integration of low-structured materials.

3. Recommendations for Optimizing Low-Structured Material Provision

3.1 Integrating Structured and Unstructured Materials

A balanced approach leverages the strengths of both material types:

High-Structured Materials: Use sparingly to introduce foundational skills (e.g., shape sorters for spatial reasoning).

Low-Structured Materials: Prioritize for open-ended exploration (e.g., clay, fabric, natural loose parts).

Hybrid Models: Combine materials to scaffold learning. For example, provide rulers (high-structured) alongside cardboard (low-structured) for a geometry and engineering project.

3.2 Phased Deployment for Depth Over Breadth

3.2.1 Small-Batch Iteration

Instead of overwhelming children with 20+ materials, introduce 5–7 core items weekly. Rotate materials biweekly based on observational assessments. For example:

Week 1: Focus on natural materials (pinecones, leaves) for sensory exploration.

Week 2: Introduce fabric and ribbons to inspire dramatic play.

3.2.2 Guided Introduction

Use morning circles to demonstrate material possibilities. For instance, show how sticks and clothespins can build a miniature bridge, then let children expand on the idea.

3.3 Embedding Implicit Learning Objectives

3.3.1 Thematic Material Clusters

Design material sets around interdisciplinary themes:

“Water World”: Include sponges, pipettes, and containers to explore absorption and volume.

“Construction Zone”: Combine blocks, pulleys, and ramps to teach physics concepts.

3.3.2 Teacher as Facilitator

Train teachers to ask open-ended questions (e.g., “*What happens if we stack these differently?*”) and document children’s discoveries through photos or journals.

3.4 Age-Specific Material Design

Toddlers (3–4 years): Prioritize safety and sensory appeal (e.g., soft fabrics, large wooden beads).

Middle Class (4–5 years): Introduce materials for symbolic play (e.g., puppets, role-play costumes).

Older Children (5–6 years): Offer complex materials (e.g., gears, measuring tools) for problem-solving.

3.5 Professional Development and Resource Equity

Workshops: Partner with universities to offer certification programs on material provision.

Community Collaboration: Establish resource-sharing networks between urban and rural kindergartens.

Government Advocacy: Lobby for funding to ensure all kindergartens have access to quality materials.

3.6 Engaging Families and Communities

Parent Workshops: Educate families on the value of play and low-structured materials.

DIY Material Kits: Distribute kits with recyclables (e.g., egg cartons, paper rolls) for home-based exploration.

4. Conclusion

Low-structured materials are not merely tools for play but catalysts for holistic development. By addressing theoretical gaps, systemic barriers, and pedagogical practices, Chinese kindergartens can unlock the full potential of these materials. A child-centered approach—rooted in intentional design, developmental sensitivity, and teacher empowerment—will cultivate resilient, creative learners prepared for the complexities of the 21st century. Bridging global best practices with localized innovations ensures that material provision honors cultural heritage while fostering global competencies.

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