

## **Leadership as Interactional Infrastructure:**

### **Designing Inclusive Professional Learning Communities in a Chinese Immersion Preschool**

#### **Research Overview**

This study examines how leadership emerges through the redesign of professional learning communities in a role-stratified Chinese immersion preschool. Using Complexity Leadership Theory and Design-Based Implementation Research, it explores how interactional infrastructures enable cross-role collaboration and inclusive practice in multilingual early childhood education.

#### **Purpose**

Professional Learning Communities (PLCs) are widely recognized as a mechanism for improving teaching and learning (DuFour & DuFour, 2013; Stoll et al., 2006; Wenger, 1998). However, most PLC models assume role parity and overlook the structural realities of early childhood education (ECE), where teaching roles are stratified and access to professional learning is uneven (Károlyi, 2012; McLean et al., 2021). In multilingual and immigrant-serving contexts, these inequities are intensified by linguistic and cultural differences, shaping whose knowledge is recognized as legitimate (Kwee, 2023; Garcia-Nevarez & Gordon, 2021).

This study addresses a key question: How can leadership be designed to enable cross-role collaboration and shared interpretation of children's learning in stratified ECE systems? Drawing on Complexity Leadership Theory (CLT) (Uhl-Bien, 2017; Uhl-Bien & Arena, 2018) and Design-Based Implementation Research (DBIR) (Fishman et al., 2013; McKenney & Reeves, 2018), the study reconceptualizes leadership as an emergent property of interaction rather than positional authority. It introduces the concept of **interactional infrastructure**,

defined as the routines, tools, and participation structures that enable sustained collaboration and inclusive practice.

## **Methods**

This qualitative case study employed a DBIR approach to examine the iterative redesign of PLCs within a Chinese immersion preschool in the United States. The site serves a multilingual, immigrant-majority teaching workforce and operates under a role-stratified structure, including lead teachers (LTs), teaching associates (TAs), and support teachers (STs). Participants included 24 educators across roles. Data were collected across four DBIR cycles (April 2024–February 2025), including interviews, meeting records, fieldnotes, and teacher-generated artifacts. Data analysis followed iterative coding procedures (Charmaz, 2014; Saldaña, 2021) and was guided by CLT, examining leadership through operational, adaptive, and enabling functions (Hazy & Uhl-Bien, 2015).

## **Results**

Findings show that leadership emerged through the design and stabilization of interactional infrastructures that enabled cross-role participation in interpreting children's learning.

First, prior to redesign, professional learning was dominated by operational leadership, with interpretive authority concentrated in lead teacher roles. This limited cross-role collaboration and positioned inclusion as a staffing issue rather than an instructional challenge (McLean et al., 2021).

Second, during organizational disruption, enabling leadership functioned to stabilize interaction rather than implement predefined plans. By redesigning schedules, meeting

structures, and communication systems, leadership preserved conditions for collaboration, aligning with CLT's emphasis on enabling adaptive capacity (Uhl-Bien & Arena, 2018).

Third, adaptive leadership emerged through cross-role sensemaking. TAs and STs contributed situated knowledge from daily interactions, while LTs contributed instructional perspectives. This redistributed epistemic authority and reframed behavioral concerns as developmental and instructional questions, consistent with research on shared professional agency (Melasalmi & Husu, 2019).

Finally, sustaining inclusive practices required rebalancing operational and adaptive functions. The implementation of Learning Stories surfaced tensions between pedagogical value and workload (Escamilla, 2021). Leadership responses focused on redesigning conditions (e.g., simplifying tools, reallocating time), demonstrating that sustainable change depends on aligning organizational structures with professional learning processes (Stosich et al., 2018).

## **Contribution**

This study advances CLT by demonstrating that leadership in ECE is fundamentally interactional and infrastructural. It reconceptualizes PLCs as systems that enable distributed interpretive work across roles and extends enabling leadership as the stabilization of conditions that sustain adaptive capacity under constraint.

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