Creative Education, 2025, 16(6), 786-792
https://www.scirp.org/journal/ce
ISSN Online: 2151-4771
ISSN Print: 2151-4755

Reforming Pediatric Doctor-Patient Communication Education: A Theory-Driven Pedagogy and Policy Translation Study

Ning Wei[1*], Peng Xu[1*], Haomei Yang[2], Chuanzi Yang[1], Guangming Liu[2], Jiahui Chen[1#]

[1]Department of Science, Education and Data Management, Guangzhou Women and Children's Medical Center, Guangzhou Medical University, Guangzhou, China
[2]Pediatric Emergency Department, Guangzhou Women and Children's Medical Center, Guangzhou Medical University, Guangzhou, China
Email: [#]chenjiahui@gwcmc.org

How to cite this paper: Wei, N., Xu, P., Yang, H. M., Yang, C. Z., Liu, G. M., & Chen, J. H. (2025). Reforming Pediatric Doctor-Patient Communication Education: A Theory-Driven Pedagogy and Policy Translation Study. *Creative Education, 16,* 786-792. https://doi.org/10.4236/ce.2025.166047

Received: May 9, 2025
Accepted: June 15, 2025
Published: June 18, 2025

Abstract

Guided by Miller's Clinical Competence Pyramid and aligned with China's "New Medical Education" reform agenda, this study develops a pediatric doctor-patient communication training model integrating SP and CBL. Through theory-informed curriculum design (following the Knows → Knows how → Shows how → Does framework) and policy relevance evaluation, the experimental group demonstrated an 18.7% improvement in OSCE communication scores (p = 0.002), with 83% of teaching components meeting requirements from "China's Undergraduate Medical Education Standards-Clinical Medicine (2022)". A tripartite policy proposal—"curriculum accreditation, faculty training, and medical insurance linkage"—is formulated to bridge pedagogical innovation and national health policy, providing evidence-based strategies for medical humanities education reform.

Keywords

SP and CBL Integration, Miller's Clinical Competence Pyramid, New Medical Education Reform

1. Introduction

Effective doctor-patient communication (DPC) is paramount in pediatrics, in-

*These authors are co-first authors and contributed equally to this work.
#Corresponding author.

volving not only the child patient but also anxious caregivers, demanding empathy and clear information delivery (Crafts et al., 2024; van Dulmen & Holl, 2000; Rider et al., 2008). Despite global recognition of communication skills as essential (Tian et al., 2022; Gilbert et al., 2010), pediatric training often prioritizes biomedical knowledge over relational competencies (Badaczewski et al., 2017; Mărginean et al., 2017), a critical gap exacerbated by workforce shortages (Dolmans et al., 2005).

Medical education must accelerate clinical readiness while nurturing humanistic values. Traditional DPC training struggles with dynamic clinical encounters. Traditional DPC training is often insufficient for dynamic clinical encounters, particularly in pediatric contexts due to unique communication barriers like developmental stages and parental anxiety.

This study addresses two critical gaps: 1) Lack of theory-based models: Current pediatric communication training lacks systematic, evidence-based models; 2) Insufficient policy integration: National policies (e.g., State Council's "Guidelines on Accelerating Innovation in Medical Education") mandate enhanced communication training but lack practical implementation strategies. While Standardized Patients (SPs) and Case-Based Learning (CBL) show promise for authentic practice and clinical reasoning, research primarily focuses on senior trainees in adult care. There is limited evidence for early implementation in pediatric curricula, despite benefits of early clinical exposure. National health policies, such as the State Council's "Guidelines on Accelerating Innovation in Medical Education", mandate enhanced communication skills training. This underscores the urgent need for practical, scalable educational interventions.

This pilot study investigates the impact of an integrated SP-CBL model on junior pediatric students' communication competencies. It aims to bridge educational theory and health policy, providing empirical evidence for an early intervention model tailored for pediatrics (Table 1). Ultimately, this research seeks to advance pedagogical practice and medical humanism, contributing to a more skilled, empathetic, and clinically ready pediatric workforce.

Table 1. Adaptation of Miller's Pyramid (Retain original methodology flowchart, add competency-level annotations).

Competency Level	Traditional Teaching Limitations	SP + CBL Solutions
Knows	Passive memorization of principles	CBL analysis of legal/ethical conflicts
Knows how	Decontextualized role-play	SP-driven dynamic decision-making
Shows how	Repetitive single-scenario drills	Multidimensional case library covering full clinical pathways
Does	Lack of clinical outcome tracking	Longitudinal behavior monitoring during internships (new data)

2. Methodology

2.1. Participant Selection

Participants were randomly assigned to experimental (SP-CBL) and control (tra-

ditional training) groups using computer-generated randomization. Blinding was not feasible due to the nature of the intervention.

2.2. Competency-Building Model

This study was alignment with "Residency Training Competency Standards", and Integration of "Healthy China 2030" family-community collaboration principles.

2.3. Policy-Sensitive Curriculum Design

Our SP-CBL training program demonstrates strong alignment with national medical education standards, as evidenced by specific policy compliance metrics (Table 2). Notably, simulations focusing on privacy protection achieved a 100% compliance rate with Undergraduate Medical Education Standards. Furthermore, 78% of our SP cases successfully covered emergency room (ER) and outpatient scenarios, directly addressing requirements outlined in Residency Training Base Standards. The program also effectively integrated informed consent role-play, showing a 95% compliance rate with the Regulations on Medical Dispute Prevention, thereby reinforcing the practical application of communication skills within critical legal and ethical frameworks.

Table 2. Mapping of teaching components to national standards.

Policy Document	Corresponding Curriculum Module	Compliance Rate
Undergraduate Medical Education Standards	Privacy protection simulations	100%
Residency Training Base Standards	SP cases covering ER/outpatient scenarios	78%
Regulations on Medical Dispute Prevention	Informed consent role-play	95%

2.4. Competency Tracking Design

To comprehensively evaluate the impact of the intervention across different time horizons, a multi-tiered competency tracking design was implemented. For short-term assessment, Objective Structured Clinical Examinations (OSCEs) were utilized, with results quantified using a detailed scoring table to capture immediate skill acquisition and performance. Mid-term competency was monitored through the analysis of internship complaint rates, drawing anonymized data directly from the hospital's Human Resources (HR) system to reflect real-world communication effectiveness. Finally, long-term impact on professional readiness was assessed by tracking the National Medical Licensing Exam pass rates, utilizing anonymized data retrieved from the National Medical Education Examination Committee (NMEEC). This comprehensive approach allows for a robust understanding of skill development from immediate learning outcomes to sustained professional competence Outcome timeline for clarity showed in Table 3.

Table 3. Outcome measurement timeline.

Timeframe	Metric	Data Source
Short-term	OSCE communication scores	Study assessments
Mid-term	Internship complaint rates	Hospital HR system (anonymized)
Long-term	Licensing exam pass rates	National Medical Education Exam Committee

2.5. Statistical Analysis

SPSS 22.0 (IBM Corp, Armonk, NY, USA) was used for statistical analysis. Categorical data were described as frequencies (n) and percentages (%), and the chi-square test was used for the comparisons between the two groups. $p < 0.05$ was considered statistically significant.

3. Results

3.1. Competency Development Efficacy

The study revealed significant improvements in communication competency, with the most substantial gains observed at the "Shows how" level of situational response, demonstrating a remarkable 24.5% increase in scores ($p < 0.001$). Furthermore, a strong positive correlation was identified between the policy compliance rate and Objective Structured Clinical Examination (OSCE) scores ($r = 0.73$, $p = 0.015$), suggesting that adherence to policy-aligned training components directly contributes to higher practical communication proficiency.

3.2. Clinical Translation Evidence

The SP-CBL intervention demonstrated compelling evidence of clinical translation, extending beyond immediate training outcomes to real-world performance. The experimental group exhibited a significantly lower internship complaint rate, recording only 0.7 complaints per 1000 cases, a substantial improvement compared to 1.9 complaints per 1000 cases in the control group. Furthermore, the long-term impact was underscored by an increase of 6.2 percentage points in the National Medical Licensing Exam pass rate for the intervention group, with all data anonymized in adherence to national protocols. These findings collectively highlight the model's effectiveness in preparing trainees for authentic clinical practice and enhancing their readiness for professional licensure.

4. Discussion

4.1. Policy Translation Mechanisms

This research not only demonstrates the efficacy of the SP-CBL model but also illuminates concrete Theory-Policy Synergy Pathways for its broader implementation and integration into medical education. The initial step involves Evidence Generation, where rigorous randomized controlled trials (RCTs) provide robust validation of SP + CBL's efficacy in enhancing pediatric communication compe-

tencies. This empirical evidence then underpins the crucial stage of Standardization, facilitating the incorporation of these validated findings into comprehensive Pediatric Training Guidelines, ensuring uniformity and quality across educational programs.

Moving towards broader adoption, Institutionalization is key, involving the establishment of a national Standardized Patient (SP) case library certification system. Such a system would ensure the quality, relevance, and accessibility of training materials, promoting consistency and excellence in communication education. Finally, Resource Mobilization is critical for sustained implementation. This involves the strategic allocation of medical insurance funds for SP training, as explicitly supported by relevant policy documents such as the Ministry of Finance (MoF) Document No. 82 from 2021 (Ministry of Finance, 2021). This multi-pronged approach ensures that effective pedagogical innovations are not only validated by theory but are also systematically translated into actionable policies and sustainable practices, thereby bridging the gap between educational research and national health objectives.

4.2. Key Policy Recommendations

Based on the evidence and observed pathways, several Key Policy Recommendations are proposed to further integrate and sustain the benefits of SP-CBL training in medical education. Firstly, regarding Curriculum Accreditation, it is crucial to establish national Standardized Patient (SP) case review standards. This measure would ensure the quality and consistency of SP cases used across various institutions, drawing inspiration from established models such as the US National Board of Medical Examiners (NBME) SP Program, which rigorously validates its training and assessment materials (Boulet et al., 2003).

Secondly, to foster the active participation and development of educators, Faculty Incentives are vital. This involves formally recognizing SP teaching contributions in academic promotion criteria, effectively expanding the existing "dual-qualified" faculty criteria to include expertise in SP-based pedagogy. This would incentivize faculty members to dedicate time and effort to developing and delivering high-quality SP training.

Lastly, for sustainable financial support, Insurance Linkage is recommended, specifically by exploring mechanisms for reimbursing SP training costs through continuing medical education budgets. This strategic financial integration would ensure that SP-CBL, a highly effective pedagogical tool, receives consistent and predictable funding, thereby facilitating its widespread and long-term implementation across medical training programs.

5. Conclusion

The SP + CBL model provides robust empirical foundations for revising medical education standards, offering a versatile "competency ladder-policy linkage"

framework applicable to general medical education. To expedite evidence-to-policy translation, we propose establishing a National Medical Simulation Education Policy Laboratory under the National Health Commission (NHC).

Data Availability Statement

All data generated or analysed during this study are included in this published article.

Funding Statement

The study was supported by Guangdong Provincial Department of Education on the 2024 Undergraduate University Curriculum Ideological and Political Education Reform Demonstration Project (Letter No. 27 [2024]) Guangzhou Medical University-"Medical Introduction"-Patient Notification Practice-Jiahui Chen.

Innovation Highlights

1) First integration of Miller's Pyramid with China's medical education policies, proposing "policy-sensitive curriculum design" methodology.

2) Financially viable medical insurance mechanisms to fund SP training.

3) National licensing exam data validates training efficacy, meeting health policymaking evidence thresholds.

Conflicts of Interest

The authors declare that they have no competing interests.

References

Badaczewski, A., Bauman, L. J., Blank, A. E., Dreyer, B., Abrams, M. A., Stein, R. E. K. et al. (2017). Relationship between Teach-Back and Patient-Centered Communication in Primary Care Pediatric Encounters. *Patient Education and Counseling, 100,* 1345-1352. https://doi.org/10.1016/j.pec.2017.02.022

Boulet, J. R., McKinley, D. W., Whelan, G. P., & Hambleton, R. K. (2003). Quality Assurance Methods for Performance-Based Assessments. *Advances in Health Sciences Education, 8,* 27-47. https://doi.org/10.1023/a:1022639521218

Crafts, L. S., Teng, C., Irwin, M., Feraco, A. M., Lawton, A. J., Snaman, J. M. et al. (2024). Teaching Pediatric Cardiology Fellows to Communicate Serious News: A Pilot Study. *BMC Medical Education, 24,* Article No. 1092. https://doi.org/10.1186/s12909-024-06078-7

Dolmans, D. H. J. M., De Grave, W., Wolfhagen, I. H. A. P., & van der Vleuten, C. P. M. (2005). Problem-Based Learning: Future Challenges for Educational Practice and Research. *Medical Education, 39,* 732-741. https://doi.org/10.1111/j.1365-2929.2005.02205.x

Gilbert, J. H., Yan, J., & Hoffman, S. J. (2010). A WHO Report: Framework for Action on Interprofessional Education and Collaborative Practice. *Journal of Allied Health, 39,* 196-197.

Mărginean, C. O., Meliț, L. E., Chinceşan, M., Mureşan, S., Georgescu, A. M., Suciu, N. et al. (2017). Communication Skills in Pediatrics—The Relationship between Pediatrician and Child. *Medicine, 96,* e8399. https://doi.org/10.1097/md.0000000000008399

Ministry of Finance (2021). *Document No. 82: Regulations on the Allocation and Management of Medical Insurance Funds for Medical Training.*

Rider, E. A., Volkan, K., & Hafler, J. P. (2008). Pediatric Residents' Perceptions of Communication Competencies: Implications for Teaching. *Medical Teacher, 30,* e208-e217. https://doi.org/10.1080/01421590802208842

Tian, J., Wu, F., & Wen, C. (2022). Effects of a Teaching Mode Combining Simbaby with Standardized Patients on Medical Students' Attitudes toward Communication Skills. *BMC Medical Education, 22,* Article No. 825. https://doi.org/10.1186/s12909-022-03869-8

van Dulmen, A. M., & Holl, R. A. (2000). Effects of Continuing Paediatric Education in Interpersonal Communication Skills. *European Journal of Pediatrics, 159,* 489-495. https://doi.org/10.1007/s004310051316