



The Multiple Influences of Preschool Teachers' Comprehensive Quality on Young Children's Physical and Mental Development

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ABSTRACT

Early childhood from three to six years old is a sensitive critical period for the simultaneous development of children's physical function, stable emotion, self-concept and interpersonal social ability. The daily long-term interaction between preschool teachers and children occupies the core microsystem environment outside the family, and teachers' overall comprehensive quality will form sustained cumulative shaping effects on children's short-term adaptive performance and long-term developmental trajectory (Bronfenbrenner, 1979; Erikson, 1950). In the context of the large-scale popularization of inclusive preschool education across China over the past decade, the country has continuously expanded the supply of preschool educational resources and appropriately relaxed the entry threshold of frontline teaching posts to solve the problem of insufficient teachers in towns and rural grassroots institutions. This policy adjustment has greatly increased the total number of preschool practitioners nationwide, but it also leads to prominent stratified differentiation in teachers' comprehensive literacy. Many grassroots temporary teachers and cross-major transfer practitioners lack systematic pre-service training covering ethics, child psychology and physical care operation, showing obvious deficiencies in emotional regulation, developmental identification ability and educational reflection consciousness (Qin & Wang, 2023; Li & Hu, 2025). A large number of domestic longitudinal cohort tracking studies have verified that children who receive long-term negative interaction from low-quality teachers are prone to chronic physical sub-health, persistent inferiority complex and aggressive peer conflict behaviour, and such developmental hidden dangers will continuously interfere with their adaptation to primary school learning life (Chen, 2022; Yang, 2026). When sorting out domestic and foreign academic papers on preschool teacher quality and children's development, two obvious research limitations can be summarized. First, most existing studies adopt single-dimensional independent analysis logic: foreign literature mostly focuses on teachers' emotional labor and occupational burnout, while domestic research separately discusses teachers' moral standards or classroom operation skills; few scholars integrate ethics, psychological literacy, professional theory and reflective awareness into a unified multi-dimensional analytical framework to compare the differentiated intensity and internal action logic of each quality dimension on children's physical and mental dual growth (Wang & Li, 2024; Rogers, 2022). Second, the countermeasures proposed by previous papers have a single subject perspective, only focusing on kindergarten internal short-term training activities, ignoring the joint linkage optimization of normal university pre-service curriculum reform, national teacher qualification assessment standard adjustment and social public parent education guidance system, and cannot form a closed-loop long-term governance mechanism to improve the overall literacy of preschool teachers (Zhong, 2025; Evans, 2019). Based on Bronfenbrenner's Ecological Systems Theory and Erikson's Psychosocial Development Theory, this paper first constructs a four-dimensional classification system of preschool teachers' comprehensive quality, and designs a conceptual framework table to visually display the logical path of each dimension acting on children's physical, emotional and social development. On the basis of systematically sorting 112 Chinese and English core literatures published from 2010 to 2026, this paper summarizes the universal quality deficiencies of grassroots preschool teachers and their corresponding adverse developmental consequences, and constructs a three-tier collaborative optimization system covering macro education policy, ecosystem normal university training and microsystem kindergarten post-service education. This research enriches the multi-dimensional integrated analysis paradigm of preschool teacher literacy in humanistic social science research, provides visualized conceptual reference through the newly added research framework table, and puts forward operable collaborative governance suggestions for education

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1. Main text

The physical and mental development of young children aged three to six lays the foundational foundation for their whole-life personality formation, learning willingness and interpersonal communication mode. A large number of developmental psychology longitudinal tracking experiments have proved that the environmental interaction experience obtained in early childhood will produce stable imprinting effects on individual psychological characteristics, which cannot be completely eliminated through later remedial education interventions (Rogers, 2022; Erikson, 1950). As the most frequent non-family interactive subject in children's daily life, preschool teachers undertake dual educational responsibilities of physical health care and psychological emotional guidance, and their comprehensive literacy level determines the quality of microsystem educational environment in kindergartens (Bronfenbrenner, 1979). In the past ten years, China's education department has comprehensively promoted the construction of inclusive preschool education, reduced kindergarten admission fees and expanded the number of grassroots preschool posts, effectively solving the long-standing problem of difficult access to preschool education for rural and urban low-income families (Ministry of Education of China, 2023; Zhong, 2025). However, the rapid expansion of post supply brings hidden troubles to the construction of teaching staff: in order to fill the gap of frontline teachers, many county-level and township kindergartens recruit a large number of temporary staff without full-time preschool major education background, and the standardized pre-job training system for cross-major transfer personnel has not been fully popularized at the grassroots level (Li & Hu, 2025). Relevant local education bureau sampling survey data show that nearly 40% of grassroots temporary preschool teachers cannot accurately identify children's typical emotional disorder manifestations, and more than half of the practitioners lack systematic training on children's outdoor sports safety protection and dietary matching operation (Liu & Zhao, 2023; Yang, 2026). Such incomplete professional literacy will continuously generate negative stimulation to children in daily class interaction, resulting in a series of developmental risks including low self-esteem, fear of communication and insufficient physical exercise volume. From the perspective of social stratification of educational resources, the uneven distribution of high-literacy teachers between urban high-quality parks and rural inclusive parks further widens the developmental gap of children in different regions, which has become a prominent social problem restricting the balanced development of early childhood education nationwide (Wang & Zhang, 2025). When systematically combing the domestic and foreign research literature collected in this paper, two core research gaps restricting the depth of existing research can be clearly identified. First, the dimensional division of teachers' quality is fragmented and single-sided. Foreign vocational psychology scholars mostly take teachers' emotional exhaustion and interpersonal labor as the core research objects, ignoring the joint influence of professional ethics and practical operation ability on children's growth (Evans, 2019; Smith, 2020). Most domestic research only separates moral literacy or teaching skills for independent discussion, lacking an integrated multi-dimensional analysis system that can cover morality, psychology, theory and reflection at the same time. Most papers only analyze the correlation between a single quality index and a certain developmental indicator of children, without comparing the differentiated predictive intensity of multiple dimensions through unified framework induction (Wang & Li, 2024). Second, the optimization path proposed by existing research lacks multi-subject linkage design. Most improvement strategies only put forward short-term training plans from the internal management perspective of kindergartens, without linking the pre-service curriculum setting of normal universities, the revision of national teacher qualification examination standards and the public parent education organized by community education institutions. The separation of multiple governance subjects leads to the inability to form long-term sustainable improvement effects of teachers' comprehensive quality (Zhong, 2025). Based on the above two core research deficiencies, this paper takes preschool teachers'

comprehensive quality as the independent variable, takes children's physical development, emotional personality development and social cognitive development as three core dependent variables, constructs a visualized research conceptual framework table to clarify the transmission path between variables, and puts forward three progressive research objectives. First, construct a complete four-dimensional standardized classification system of preschool teachers' comprehensive quality, and form a visualized conceptual logic table of variable action paths. Second, systematically summarize the common literacy deficiencies of grassroots preschool teachers and their multi-layer adverse effects on children's physical and mental growth on the basis of large-scale literature induction. Third, build a closed-loop collaborative optimization system covering macro education administration, exosystem normal university training and microsystem kindergarten post-service education under the guidance of dual theories of ecological system and developmental psychology. The core research assumption of this paper is that preschool teachers' comprehensive quality contains four mutually interrelated core dimensions, and each dimension has differentiated positive predictive effects on children's physical, emotional and social development; the current uneven literacy distribution of grassroots preschool teachers is jointly restricted by macro policy, university training and kindergarten internal management, and single institutional training cannot fundamentally resolve the problem of teacher quality stratification.

2. Literature Review & Theoretical Framework

Erikson's psychosocial development theory laid the core theoretical foundation for analyzing the interactive relationship between teacher literacy and children's emotional development. Erikson divided human life into eight continuous psychosocial conflict stages, among which the initiative vs. guilt conflict stage corresponding to 3–6 years old determines children's long-term self-confidence and active social willingness (Erikson, 1950). If preschool teachers can provide continuous positive encouragement, patient response and equal communication feedback to children in daily activities, they can effectively help children form stable initiative personality; on the contrary, long-term cold neglect, arbitrary criticism and emotional suppression from teachers will make children generate persistent inner guilt and social avoidance tendency, and this psychological hidden danger will continue to affect their learning state after entering primary school (Rogers, 2022). Combined with physical developmental psychology research, the regular outdoor activity guidance, scientific rest arrangement and daily physical health monitoring provided by teachers are the key external conditions to guarantee children's normal bone and motor function development. Teachers with insufficient physical care literacy cannot formulate differentiated sports plans according to children's individual physical differences, which will lead to long-term insufficient exercise and sub-health state of young children (Huang & Sun, 2022). Foreign research on preschool teachers' quality mainly expands from the perspective of vocational emotional psychology. Evans (2019) conducted a three-year longitudinal tracking survey of 412 preschool teachers in Europe, and the results showed that teachers with poor emotional regulation ability were easy to transfer negative work emotions to children, triggering frequent crying and fear psychology of young children. Smith (2020) supplemented cross-cultural comparative research and pointed out that preschool teachers with strong professional identity can act as positive social role models for children, significantly improving children's peer cooperation and conflict resolution ability. However, most foreign research only focuses on teachers' internal emotional state, and rarely integrates professional ethics and practical operation ability into the unified research framework for comprehensive discussion. Domestic academic research on preschool teachers' comprehensive quality presents scattered multi-directional characteristics. A part of core journal papers takes teachers' professional ethics as the main research object, analyze the adverse consequences of teachers' cold violence and verbal criticism on children's mental health (Chen, 2022). Another category of literatures focuses on classroom teaching skills and outdoor activity operation norms, discussing the improvement path of teachers' practical ability (Liu & Zhao, 2023).

A small number of master's and doctoral dissertations involve teachers' psychological literacy and educational reflection consciousness, but there is a lack of research that integrates the four core dimensions into a complete analytical system at the same time

(Qin & Wang, 2023; Li & Hu, 2025). In terms of research conclusion defects summarized by existing domestic and foreign literatures, the uneven distribution of teachers' comprehensive quality in grassroots kindergartens is mainly reflected in four aspects: insufficient empathy and emotional control ability, incomplete reserve of child development theoretical knowledge, non-standard physical and mental care operation, and lack of daily teaching reflection habits. Most previous countermeasures only design short centralized training from the kindergarten level, without linking the curriculum reform of normal universities and the top-level design of national teacher qualification assessment, and cannot form a long-term multi-subject joint improvement mechanism (Zhong, 2025). Bronfenbrenner's four-layer Ecological Systems Theory constitutes another important theoretical support of this paper. The theory divides children's growth environment into macrosystem, exosystem, mesosystem and microsystem from outside to inside. Kindergarten classroom belongs to the core microsystem where children and teachers interact daily; normal university training, education bureau supervision and parent education institutions belong to exosystem; national preschool education laws and assessment standards are classified as macrosystem; the interactive connection between kindergartens and primary schools, families and kindergartens belong to mesosystem (Bronfenbrenner, 1979). The comprehensive quality of teachers, as the core interactive subject in the microsystem, will be restricted by the training mode of exosystem normal universities and the assessment rules of macrosystem education departments. Any layer of system defects will lead to the overall decline of teachers' literacy, and then transmit multi-layer adverse developmental influence to children in the microsystem classroom environment. On the basis of dual theoretical support, this paper constructs a standardized four-dimensional classification system of preschool teachers' comprehensive quality, and newly adds Table 1 to form a visualized conceptual framework, which intuitively presents each quality dimension, corresponding connotation and its differentiated action objects in children's physical, emotional and social development. The overall research logical chain of this paper is as follows: sort domestic and foreign multi-year core literatures to summarize research gaps and practical problems → rely on dual theories to divide four core dimensions of teachers' comprehensive quality → build visualized variable conceptual framework table through standardized classification → summarize grassroots teacher literacy deficiencies and their developmental adverse effects → construct multi-layer collaborative optimization strategies from four layers of ecological system.

Table 1

Conceptual Framework: Four Dimensions of Preschool Teachers' Comprehensive Quality and Their Developmental Influences on Children

Dimension Serial Number	Dimension Name	Core Connotation of This Dimension	Main Influenced Developmental Fields of Children
Dimension 1	Professional Ethics & Emotional Literacy	Empathy for children, emotional self-control, positive verbal feedback, non-violent communication norms Child developmental	Emotional personality development, social cognition, interpersonal willingness
Dimension 2	Preschool Professional Theoretical Knowledge	psychology, sensitive period identification, physical growth rules, children's psychological abnormal judgment	All-round physical and mental development (basic theoretical support)
Dimension 3	Physical & Mental Care Practical Ability	Outdoor sports guidance, dietary matching, rest	Physical growth, motor function, physical health status

Dimension 4	Educational Reflective Consciousness	management, daily health	
		monitoring, safety protection	
		Post-class summary, activity	
		effect adjustment, individualized teaching optimization, long-term developmental tracking	Social adaptation, sustained learning initiative, personalized growth

Note. This conceptual framework table is independently designed based on Ecological Systems Theory and Erikson's developmental psychology, used to clarify the independent action field of each teacher quality dimension.

3. Methodology

This paper adopts normative systematic literature review as the core research design, which is a mainstream standardized research method in humanistic social science education research (Creswell & Poth, 2018). Different from questionnaire quantitative research and field interview qualitative research that collect original primary data, this research takes publicly published academic documents as all analysis raw materials, including English core journal papers in Web of Science database, Chinese CNKI core journals, master's and doctoral dissertations, national preschool education policy documents issued by the Ministry of Education, and local education bureau industry survey reports. The literature retrieval time range is set from January 2010 to June 2026, and multi-group retrieval keywords are used for comprehensive retrieval: preschool teacher quality, teachers' emotional literacy, children's physical and mental development, early childhood socialization, ecological systems theory, preschool vocational training, inclusive kindergarten teacher construction. After preliminary retrieval, a total of 247 documents are obtained, and two rounds of strict inclusion and exclusion screening are carried out to screen valid research materials. The first round of screening eliminates conference abstracts, newspaper news, short popular science articles and repetitive published papers with completely consistent research data, retaining 156 preliminary documents. The second round of screening eliminates literatures with single case discussion without systematic empirical data support and papers only discussing partial fragmentary teacher skills without comprehensive quality multi-dimensional analysis framework, and finally retains 112 valid Chinese and English core literatures as the research analysis basis, including 43 English foreign literatures and 69 Chinese domestic literatures. This paper independently designs a standardized three-axis literature coding framework, taking teachers' comprehensive quality dimension, children's developmental influence type and practical problem induction as three core coding axes respectively.

Two researchers with complete preschool education professional background independently complete full-text marking and classification of all 112 literatures, and record inconsistent coding items in the unified record form during the marking process. After the independent coding work is completed, the two coders carry out group discussion one by one for all divergent classification contents, reach unified marking standards, and calculate inter-coder reliability to test the stability and objectivity of coding results. In terms of specific analytical methods, this paper combines normative theoretical deduction and large-sample literature integrated induction. On the basis of sorting a large number of longitudinal empirical research conclusions in collected literatures, it uses the dual theoretical framework of Ecological Systems Theory and Erikson's developmental psychology to deduce the internal logical transmission relationship between each teacher quality dimension and children's multi-dimensional developmental indicators, summarizes the common literacy deficiencies of grassroots teachers reflected by survey-type literatures, and constructs multi-layer operable collaborative optimization strategies corresponding to the four-layer nested ecological system structure. This research strictly complies with all human subjects and academic ethics norms stipulated by APA 7 Edition. All literature materials used in the paper are publicly released official academic achievements and policy documents, without involving children's personal privacy information, kindergarten internal

confidential data and teachers' private interview records, so there is no risk of personal or institutional information leakage. All sorted literature resources will be uniformly sorted into APA7 standard reference list after the completion of this paper, and will not be used for any commercial publicity, institutional evaluation and other non-academic purposes.

4. Results of Literature Coding & Inductive Integration

After completing unified independent coding, reliability inspection and integrated induction of 112 valid Chinese and English literatures, the four core dimensions of preschool teachers' comprehensive quality and their differentiated acting fields on children's physical, emotional and social development are systematically summarized with reference to Table 1 conceptual framework. The first dimension is professional ethics and emotional literacy, which is the strongest predictive factor of children's emotional personality and interpersonal willingness summarized by all coded literatures. Teachers with sufficient empathy and stable emotional self-control can respond to children's various demands patiently in daily activities, use gentle positive language to evaluate children's behaviors, and avoid arbitrary blame and cold ignoring behaviors; such long-term equal interactive mode can continuously cultivate children's active self-confidence and friendly peer communication awareness (Chen, 2022; Evans, 2019). On the contrary, teachers with insufficient emotional literacy often have sudden anger, perfunctory coping and negative verbal hints to children, which will make children form long-term inner inferiority and social avoidance psychology, and even trigger frequent fighting and aggressive behaviors among peers (Rogers, 2022). The second dimension is preschool professional theoretical knowledge, which belongs to the basic supporting dimension covering all developmental fields of children. Teachers who fully master child developmental psychology and sensitive period theory can accurately distinguish children's normal growth performance from abnormal emotional and behavioral problems, and formulate targeted activity plans matching children's individual developmental rhythm; teachers with incomplete theoretical reserve cannot capture children's potential developmental risks in time, resulting in missed optimal intervention opportunities (Wang & Li, 2024; Huang & Sun, 2022).

The third dimension is physical and mental care practical ability, which directly acts on children's physical growth, motor function and daily health state. Standardized outdoor sports design, scientific dietary collocation and fixed daily health monitoring can effectively guarantee children's bone development and sufficient daily exercise volume; non-standard operation such as random reduction of outdoor activities and single dietary matching will lead to children's long-term sub-health and insufficient physical coordination ability (Liu & Zhao, 2023). The fourth dimension is educational reflective consciousness, which produces long-term cumulative regulating effects on children's social adaptation and sustained learning initiative.

Teachers with fixed post-class reflection habits can continuously adjust activity design according to children's daily performance, carry out individualized guidance for children with different adaptive levels, and continuously optimize the microsystem educational environment; teachers lacking reflection consciousness repeatedly use fixed unified group activities for a long time, cannot adjust teaching strategies according to children's changing developmental needs, and will gradually weaken children's exploration willingness and active learning enthusiasm (Zhang, 2021; Li & Hu, 2025). After sorting the survey data contained in domestic literatures, four prominent common literacy deficiencies of grassroots preschool teachers are extracted, which correspond to the four dimensions one by one. First, emotional and ethical deficiency: a large number of temporary teachers have not received systematic children empathy training, and emotional out-of-control and perfunctory response phenomena occur frequently in daily classes. Second, theoretical knowledge reserve deficiency: cross-major transfer practitioners lack complete developmental psychology curriculum learning during pre-service stage, and cannot accurately identify children's developmental sensitive signals. Third, care operation non-standardization: grassroots parks are limited by human resources, and the frequency of special practical training is insufficient every semester. Fourth, reflection consciousness deficiency: most kindergartens do not incorporate teaching reflection logs into daily regular assessment,

resulting in teachers lacking internal driving force for post-class summary and optimization. The superposition of multiple literacy deficiencies will produce compound adverse stimulation to children's physical and mental development at the same time, and the longer the exposure time of children in such classroom environment, the more obvious the cumulative developmental hidden dangers (Yang, 2026; Zhong, 2025).

5. Discussion

Combined with the coding induction results of 112 multi-year domestic and foreign literatures and the visualized conceptual framework table constructed in this paper, the internal action logic of each dimension of preschool teachers' comprehensive quality on children's multi-layer development can be fully interpreted under the four-layer nested structure of Bronfenbrenner's Ecological Systems Theory and Erikson's early childhood personality development theory. Kindergarten classroom is the core microsystem of children's daily growth, and teachers, as the most important interactive subjects in the microsystem, their four-dimensional comprehensive quality forms the core environmental stimulus affecting children's physical, emotional and social growth respectively. Among the four dimensions, emotional and ethical literacy produces the most direct short-term stimulation to children's psychological state; practical care ability directly restricts children's physical development level; professional theoretical knowledge provides the underlying judgment basis for all educational behaviors; reflective consciousness determines the long-term dynamic optimization ability of the microsystem educational environment. The four dimensions restrict and promote each other mutually, and any single dimension deficiency will weaken the positive developmental promotion effect brought by the other three high-quality dimensions (Bronfenbrenner, 1979; Rogers, 2022).

From the perspective of developmental psychology's sensitive period hypothesis, the physical and mental developmental characteristics of 3–6-year-old children have strong plasticity, and the negative environmental stimulation brought by teachers' incomplete literacy has irreversible cumulative influence on children's personality formation to a certain extent. Short-term remedial activities after entering primary school cannot completely offset the psychological inferiority, exercise deficiency and social avoidance habits formed in the kindergarten stage (Erikson, 1950; Yang, 2026). On the basis of sorting the common literacy deficiencies of grassroots teachers reflected by literature survey data, this paper analyzes the multi-layer root causes of uneven distribution of teachers' comprehensive quality from the four layers of ecological system. The macrosystem root cause lies in the insufficient refinement of national preschool teacher qualification assessment standards. At present, the unified examination content focuses on written theoretical knowledge, and sets few targeted assessment links for emotional literacy, practical operation and educational reflection. The mandatory pre-job training specifications for temporary cross-major teachers have not been issued nationwide (Ministry of Education of China, 2023; Zhong, 2025). The exosystem root cause is the unreasonable curriculum setting of normal university preschool majors.

Many local normal colleges compress practical courses such as children's emotional communication and outdoor sports protection, and the supplementary training modules for cross-major transfer students are incomplete, leading to incomplete literacy reserve of students before employment (Qin & Wang, 2023; Li & Hu, 2025). The mesosystem deficiency is the lack of long-term joint training linkage mechanism between kindergartens and local education bureaus, and the regular standardized training organized by administrative departments cannot cover all township grassroots parks. The microsystem root cause is the insufficient training frequency and imperfect daily assessment mechanism of grassroots kindergartens, and the heavy daily class management pressure makes teachers lack sufficient time to carry out post-class educational reflection (Liu & Zhao, 2023). Corresponding to the four-layer nested ecological system structure, this paper constructs a closed-loop multi-subject collaborative optimization strategy covering macrosystem education policy, ecosystem normal university pre-service training, mesosystem administrative joint training and microsystem kindergarten daily teaching management. At the macrosystem policy level, provincial and municipal education administrative departments revise the preschool

teacher qualification examination outline, increase emotional communication, physical care operation and educational reflection targeted assessment modules, and issue national unified mandatory pre-job training standards for temporary and cross-major preschool practitioners. At the exosystem normal university level, adjust the proportion of theoretical and practical courses of preschool majors, add special supplementary training courses for cross-major transfer freshmen, and set long-term kindergarten internship tracking assessment links to cultivate students' empathy and operation ability during school. At the mesosystem administrative linkage level, take counties as units to organize quarterly unified special training covering emotional guidance and sports safety protection, and arrange special teaching researchers to enter township parks for regular on-site guidance.

At the microsystem kindergarten level, formulate monthly targeted post-service training plans, incorporate standardized teaching reflection logs into monthly performance appraisal, and set up peer discussion groups for teachers to share individualized children's guidance experience.

This research forms three distinct theoretical contributions to humanistic social science preschool education research field. First, this paper constructs a complete four-dimensional integrated classification system of preschool teachers' comprehensive quality, and newly adds visualized conceptual framework Table 1 to clarify the independent action field of each dimension, breaking the single-dimensional fragmented analysis limitation of most previous domestic literatures. Second, this research expands the joint application paradigm of Ecological Systems Theory and Erikson's developmental psychology in domestic grassroots preschool balanced development research, and analyzes the multi-layer macrosystem, ecosystem and microsystem root causes of teachers' literacy differentiation from a systematic perspective, enriching localized theoretical application cases (Wang & Zhang, 2025). Third, on the basis of 112 multi-year Chinese and English literature induction, this paper puts forward four-layer multi-subject collaborative governance countermeasures, overcoming the single kindergarten internal training perspective defect of previous research optimization suggestions. Three obvious research limitations exist in this systematic literature review paper. First, all research conclusions are derived from integrated induction of existing published literatures, without original longitudinal tracking survey primary data of local children and teachers, and cannot carry out quantitative causal test. Second, the collected literature samples are dominated by urban and county parks, and the number of literatures focusing on remote mountain rural inclusive kindergartens is insufficient, which restricts the full generalization of research conclusions to remote rural preschool scenarios. Third, this paper only adopts normative literature induction research design, without combining field observation and teacher semi-structured interview mixed research to verify the authenticity of practical literacy deficiencies. Corresponding targeted future research directions are proposed on the basis of limitations: carry out mixed-method research combining questionnaire survey and children's long-term developmental tracking covering urban and rural multi-regional samples; design targeted teacher emotional literacy intervention experiments to test the long-term improvement effect of training on teachers' comprehensive quality; expand the retrieval scope of rural preschool research literatures to carry out urban-rural comparative analysis of teachers' comprehensive quality distribution differences.

6. Conclusion

Taking normative systematic literature review as the core research method, this paper collects and codes 112 valid Chinese and English core literatures published from 2010 to 2026, relies on Bronfenbrenner's Ecological Systems Theory and Erikson's psychosocial development theory to construct a four-dimensional integrated classification system of preschool teachers' comprehensive quality, and independently designs Table 1 visualized conceptual framework table to intuitively display the differentiated action field of each quality dimension on children's physical, emotional and social multi-layer development. Literature induction results show that professional ethics & emotional literacy is the strongest predictive factor of children's emotional socialization; physical and mental care practical ability directly restricts children's physical growth level; preschool professional theoretical knowledge provides underlying theoretical

support for all developmental education behaviors; educational reflective consciousness forms long-term dynamic adjustment effect on microsystem educational environment. At present, grassroots inclusive and township preschool teachers generally have four prominent literacy deficiencies corresponding to the four dimensions, and the uneven distribution of teachers' comprehensive quality is jointly restricted by macrosystem assessment standards, ecosystem normal university curriculum setting, mesosystem administrative joint training mechanism and microsystem kindergarten daily management mode. Starting from the four-layer nested interactive logic of ecological systems theory, this paper constructs a closed-loop multi-subject collaborative optimization strategy covering national education administrative policy, normal university pre-service training, county-level unified special training and kindergarten daily post-service education. This research enriches the multi-dimensional integrated analysis research paradigm of preschool teacher literacy in humanistic social science, provides visualized conceptual reference through the newly added research framework table, and supplies systematic multi-layer governance suggestions for education administrative departments, normal colleges and frontline grassroots kindergartens. Follow-up multi-region urban and rural mixed-method longitudinal tracking research and targeted teacher literacy intervention experiments are needed to further verify the causal relationship between teachers' comprehensive quality and children's long-term physical and mental developmental trajectory, and continuously optimize the multi-subject joint improvement mechanism of preschool teaching staff construction.

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