

Integrating Conflict Resolution into Problem-Based Learning: A Novel Model to Enhance Social Skills in Early Childhood Education

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ABSTRACT

This study develops and tests a Problem-Based Learning (PBL) model integrated with conflict resolution content to enhance social skills in early childhood education. Grounded in constructivist learning theory and the socio-emotional development framework, this research addresses the gap in early childhood pedagogy, where social competence is often underemphasized compared to cognitive domains. Using a Research and Development (R&D) design with both qualitative and quantitative approaches, the model was implemented in several early childhood institutions in Pekanbaru, Indonesia. The findings demonstrate that children who participated in the PBL model with embedded conflict resolution activities showed significant improvements in five key dimensions of social skills: communication, cooperation, responsibility, self-control, and social awareness. The study contributes a novel pedagogical framework that not only strengthens early social competencies but also aligns with 21st-century learning objectives emphasizing collaboration, empathy, and problem-solving.

Keywords: Early Childhood Education, Social Skills, Problem-Based Learning, Conflict Resolution, Constructivist Learning, Model Development

INTRODUCTION

Early childhood education (ECE) has increasingly become the focal point of educational reforms worldwide as societies recognize its profound impact on lifelong learning, socio-emotional adjustment, and civic participation. Recent longitudinal studies show that children's early social competence manifested through empathy, cooperation, and self-regulation predicts academic success and psychosocial well-being well into adolescence and adulthood (Zohra, Ali, & Ahmed, 2024). However, the growing complexity of modern childhood driven by digital exposure, socio-cultural diversity, and reduced interpersonal play has posed new challenges for educators seeking to cultivate these foundational competencies (Cai et al., 2024).

In Indonesia, the significance of social-emotional learning (SEL) in the national early childhood curriculum has been formalized through *Permendikbudristek No. 5/2022*, which mandates the integration of moral and social-emotional development as key learning outcomes. Yet, classroom practices often remain teacher-centered, emphasizing cognitive readiness reading, writing, and counting over relational and collaborative engagement (Handayani & Kaffa, 2025). Observational evidence from preschools in Pekanbaru, for instance, reveals that teachers frequently intervene in children's disputes by separating them rather than facilitating constructive negotiation, thus limiting opportunities to internalize empathy and perspective-taking.

Globally, there has been a paradigm shift toward experiential and inquiry-based pedagogies such as Problem-Based Learning (PBL), which position learners as active participants in constructing knowledge through problem exploration and collaboration (Hmelo-Silver et al., 2024). Within early childhood contexts, PBL nurtures curiosity, communication, and teamwork skills that mirror children's natural tendencies to inquire and interact (Meyer et al., 2023). Nevertheless, most PBL research in ECE has focused predominantly on cognitive gains (creativity, critical thinking) rather than social or emotional competencies, leaving a significant gap in addressing how PBL can foster children's interpersonal growth.

Meanwhile, conflict remains an inherent aspect of social interaction in early childhood. Rather than being suppressed, conflicts can serve as authentic contexts for developing empathy, negotiation, and self-control (Lee & Lee, 2022). Recent cross-cultural studies reaffirm that guided conflict resolution promotes prosocial behavior and reduces aggression among preschoolers (Cao et al., 2023). In fact, children learn not only to identify emotions but also to understand divergent viewpoints when encouraged to collaboratively resolve conflicts (Dereli-Iman, 2014). Unfortunately, in many preschool settings particularly across Southeast Asia—conflict resolution is still regarded as behavioral management rather than as a learning opportunity.

To meet these challenges, the integration of Conflict Resolution (CR) within Problem-Based Learning (PBL) emerges as a promising pedagogical innovation. The synergy between these frameworks allows teachers to embed socio-emotional skill-building within authentic, problem-centered activities. This integrated approach transforms classroom conflicts into structured learning episodes where children engage in reflection, dialogue, and cooperative problem-solving (Gilang, Syakur, & Solikhah, 2024). The PBL-CR model thus aligns with constructivist and socio-cultural theories that view learning as socially mediated and contextually grounded (Vygotsky, 1978; Bruner, 1996).

Empirical findings further underscore the timeliness of this innovation. A 2024 study in Malaysia reported that preschoolers exposed to project-based SEL modules exhibited a 34 % increase in cooperative play and emotional regulation scores compared with traditional teaching groups (Rahman & Nordin, 2024). Similar evidence from Turkey and Japan confirms that early exposure to structured peer-interaction models significantly improves empathy and communication outcomes (Carmona-Medeiro et al., 2024). These findings reinforce the need for pedagogical designs that merge problem-solving, collaboration, and conflict-resolution practices.

Indonesia's cultural philosophy of education rooted in Ki Hajar Dewantara's tri-sentra principle of *ing ngarsa sung tuladha, ing madya mangun karsa, tut wuri handayani* offers a fertile ground for such integration. This principle emphasizes character development through guided autonomy and social harmony, echoing the core of the PBL-CR framework. In today's pluralistic and competitive society, nurturing social skills like empathy and cooperation from an early age is essential to sustaining national cohesion and global citizenship.

This study therefore aims to develop and validate an integrated PBL model with Conflict Resolution content (PBL-CR) designed to enhance the social skills of children aged 5–6 years. Specifically, the study seeks to (1) analyze the baseline condition of children's social skills, (2) design and validate a developmentally appropriate PBL-CR model, and (3) evaluate its feasibility and effectiveness in fostering cooperation, communication, responsibility, self-control, and social awareness. By bridging the theoretical gap between cognitive and socio-emotional domains, this research contributes an innovative pedagogical model with implications for policy and practice in early childhood education.

LITERATURE REVIEW

Social Skills in Early Childhood

Social skills are among the most critical developmental outcomes of early childhood education, encompassing children's ability to communicate, cooperate, express empathy, and self-regulate within social contexts (Gresham & Elliott, 1990). Recent scholarship defines social competence not as a static trait but as a dynamic interaction between emotional understanding and behavioral regulation (Handayani & Kaffa, 2025). When children acquire these skills early, they exhibit stronger adjustment to formal schooling and are less likely to display disruptive or withdrawn behaviors (Zohra et al., 2024). Conversely, limited social competence in the preschool period often predicts later social isolation, aggression, and academic disengagement (Cai et al., 2024).

Empirical evidence underscores that structured social-emotional learning (SEL) initiatives can yield measurable improvements in early childhood social outcomes. A 2024 longitudinal study in Japan demonstrated that children exposed to daily SEL routines showed significant gains in empathy and peer cooperation compared with control groups (Ohashi & Yamamoto, 2024). Likewise, Rahman and Nordin (2024) found that Malaysian preschoolers engaged in SEL-based project activities improved cooperation by 34 %. These findings affirm that systematic social-skills instruction must be embedded within pedagogical frameworks rather than treated as supplementary moral lessons.

Cultural and contextual factors further shape how social skills develop. In collectivist societies such as Indonesia, cooperation and group harmony are emphasized over individual assertiveness (Setyowati et al., 2022). Teachers' attitudes, classroom interactions, and modeling of empathy strongly influence children's socio-emotional growth (Wijayanti & Rahmat, 2024). Hence, educators play a pivotal mediating role in transforming social encounters particularly conflicts into learning opportunities for building prosocial behavior and emotional literacy.

Problem-Based Learning in Early Childhood Education

Problem-Based Learning (PBL) originated in medical education (Barrows, 1986) but has since evolved into a constructivist framework emphasizing inquiry, collaboration, and contextual problem-solving (Hmelo-Silver et al., 2024). Within ECE, PBL leverages children's natural curiosity and social interaction to co-construct understanding (Meyer et al., 2023). PBL's cyclical phases problem identification, exploration, collaboration, and reflection align closely with developmental play principles, encouraging children to reason, communicate, and cooperate.

Recent adaptations of PBL to early-childhood settings highlight promising results. A quasi-experimental study in Indonesia found that five- to six-year-olds engaged in PBL-based thematic learning demonstrated higher creative thinking and teamwork compared with peers in teacher-directed lessons (Zami et al., 2024). Similarly, Gunawan, Festiyed, and Razak (2023) reported that PBL-STEM modules for preschoolers yielded large effect sizes for 21st-century skills especially collaboration and communication. These findings indicate that PBL can be effectively scaled downward to preschool levels when adapted to children's developmental characteristics.

Despite its benefits, most PBL research remains cognitively oriented, focusing on reasoning or science process skills rather than emotional or interpersonal dimensions (Tawfik et al., 2021). Teachers often perceive conflict episodes during PBL discussions as classroom management challenges instead of teachable moments. Therefore, embedding socio-emotional components such as empathy, communication, and conflict resolution within PBL can create a more holistic learning model that mirrors real-life social interactions while achieving developmental goals.

Conflict Resolution and Socio-Emotional Learning

Conflict among preschoolers is a natural and inevitable aspect of peer interaction. Far from being purely disruptive, such moments offer powerful opportunities for children to develop negotiation, emotional regulation, and empathy (Lee & Lee, 2022). Contemporary educators increasingly view conflict not as a behavioral issue but as an instructional resource for teaching problem-solving and self-control (Gilang, Syakur, & Solikhah, 2024). Studies in early-childhood classrooms reveal that children guided through conflict-resolution dialogues demonstrate marked improvements in emotional vocabulary and peer acceptance (Cao et al., 2023).

Integrating structured conflict-resolution processes into daily learning aligns with socio-emotional learning (SEL) frameworks that emphasize self-awareness, relationship skills, and responsible decision-making (Collaborative for Academic, Social, and Emotional Learning [CASEL], 2023). When teachers scaffold these interactions encouraging children to articulate feelings, listen to others, and generate win-win solutions children begin internalizing empathy and social responsibility (Dereli-Iman, 2014). Digital and play-based approaches further extend these possibilities; for instance, interactive storytelling and role-play games have been shown to enhance children's cooperative behavior and impulse control (Rahmah & Yusuf, 2024).

However, the literature reveals limited attempts to situate conflict-resolution pedagogy explicitly within a PBL framework for early childhood. Existing studies typically address classroom management or character education, rather than conceptualizing conflict as a cognitive-social problem to be collaboratively resolved. Thus, integrating conflict-resolution strategies into the structured inquiry of PBL represents a significant theoretical and practical innovation, positioning conflict as a catalyst for developing both social and cognitive competencies.

METHODOLOGY

Research Design

This research employed a Research and Development (R&D) approach adapted from the classic Borg and Gall (1983) model, which was further contextualized for educational innovation in early childhood settings. The R&D method was selected because it not only investigates empirical relationships but also produces a validated pedagogical product namely, a Problem-Based Learning model integrated with Conflict Resolution (PBL-CR). This dual orientation toward discovery and application ensures that the model is theoretically grounded and practically relevant for teachers in Indonesian early childhood education (ECE) contexts.

The study unfolded across five systematic stages: (1) preliminary study and needs assessment; (2) model design and development; (3) expert validation; (4) limited trials; and (5) field implementation and effectiveness testing. Each stage involved iterative revisions informed by expert input, empirical evidence, and practitioner feedback to

ensure ecological validity and cultural adaptability. Such a cyclical process aligns with the constructivist paradigm underpinning this research, emphasizing reflection and continuous improvement (Creswell & Guetterman, 2023).

A mixed-methods orientation was embedded within the R&D framework to enhance robustness. Quantitative analysis was used to measure changes in children's social skills before and after intervention, while qualitative techniques such as teacher interviews and classroom observations provided contextual insights into how the PBL–CR model functioned in real teaching environments. This integration of methods strengthened the validity of findings through triangulation (Tashakkori & Teddlie, 2024).

Participants and Setting

The study was conducted in four early childhood education centers (*Taman Kanak-Kanak*) in Pekanbaru City, Indonesia, representing both public and private institutions. These sites were selected using stratified random sampling to ensure representation across socioeconomic and institutional variations. A total of 58 children aged between 5 and 6 years, along with 12 classroom teachers, participated in the study. The sample size was deemed sufficient for quasi-experimental analysis, reflecting minimum requirements for small-sample educational research (Gay et al., 2023).

Prior to data collection, ethical clearance was obtained from the institutional research ethics board, and informed consent was secured from teachers and parents. The inclusion criteria required that children be enrolled in the final year of early childhood education and exhibit age-appropriate verbal communication skills to participate in interactive learning and peer discussions. Teachers were selected based on their teaching experience (minimum three years) and willingness to engage in professional development workshops related to PBL and conflict resolution.

The learning activities were implemented in natural classroom settings to maintain ecological validity. Classrooms were arranged to encourage collaboration; children worked in small groups of four to five, fostering peer interaction. Throughout the intervention, teachers acted as facilitators, guiding children's exploration and conflict-resolution processes rather than imposing solutions.

Instruments and Data Collection

Multiple instruments were employed to capture both quantitative and qualitative dimensions of the research. The primary quantitative instrument was the *Social Skills Observation Sheet* adapted from Gresham and Elliott's (1990) Social Skills Rating System (SSRS), modified for early childhood context by Indonesian experts. It assessed five domains: communication, cooperation, responsibility, self-control, and social awareness. Each item was rated on a 5-point Likert scale based on frequency of observed behavior. The instrument demonstrated strong internal consistency (Cronbach's $\alpha = .91$).

To validate the instructional model, expert judgment forms were distributed to three ECE specialists and two educational psychologists. They assessed content validity, developmental appropriateness, and cultural relevance of the proposed PBL–CR model using a structured checklist. Qualitative data were gathered through semi-structured interviews with participating teachers and non-participant classroom observations documented via field notes.

Data collection occurred in three phases: pre-intervention, implementation, and post-intervention. In the pre-intervention phase, baseline social skills were measured. During implementation, researchers observed classroom interactions to document children's behavioral changes and teacher facilitation strategies. Post-intervention assessments were conducted using identical instruments to evaluate progress. These multi-source data allowed triangulation between quantitative outcomes and qualitative experiences, strengthening the credibility of findings (Creswell & Plano Clark, 2024).

Table 1. Dimensions and Indicators of Children's Social Skills

Dimension	Behavioral Indicators	Description
Communication	1. Expresses ideas verbally.2. Listens attentively to peers.3. Responds appropriately in conversation.	Ability to convey and interpret messages clearly during social interactions.
Cooperation	1. Shares materials with peers.2. Participates in group tasks.3. Offers help to classmates.	Willingness to work together toward common goals and maintain group harmony.
Responsibility	1. Follows classroom rules.2. Completes assigned tasks.3. Cares for personal and shared belongings.	Demonstrates accountability and reliability in classroom routines.
Self-Control	1. Manages frustration or anger appropriately.2. Waits for turns.3. Accepts corrective feedback.	Regulates emotions and behaviors in response to social expectations.

Social Awareness	1. Shows empathy toward others.2. Recognizes others' feelings.3. Engages in fair play.	Understands and respects the emotions, perspectives, and rights of peers.
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Note. Adapted from Gresham & Elliott (1990), modified for early childhood context in this study.

Data Analysis

Quantitative data were analyzed using paired sample t-tests to determine significant differences in children's social skills before and after the intervention. Descriptive statistics, including means and standard deviations, were computed to summarize patterns of improvement across the five social skill dimensions. Effect sizes (Cohen's d) were also calculated to measure the magnitude of change attributable to the PBL–CR intervention (Field, 2023).

Qualitative data from teacher interviews and classroom observations were subjected to thematic analysis following Braun and Clarke's (2023) six-step procedure: familiarization, coding, theme generation, review, definition, and reporting. The analysis aimed to identify recurring patterns related to teachers' perceptions of the model's feasibility, children's engagement during conflict-resolution activities, and contextual challenges encountered in implementation.

Integration of quantitative and qualitative findings was achieved through convergent mixed-methods **triangulation**, allowing data from both strands to complement and enrich each other. For example, improvements observed in quantitative social-skill scores were cross-validated by qualitative narratives describing enhanced cooperation and empathy among children. This methodological synergy ensured that the study captured both measurable effects and the lived realities of classroom transformation.

Model Development Procedure

The development of the PBL–CR model followed iterative design logic, guided by constructivist principles and real-world teacher input. The initial prototype was constructed based on theoretical synthesis from prior research on PBL (Hmelo-Silver et al., 2024) and conflict resolution in early childhood (Lee & Lee, 2022). After expert validation, the model underwent pilot testing and subsequent refinement based on empirical observations.

The finalized model consisted of five instructional phases:

1. **Problem Identification (Conflict Discovery)**
Children are introduced to real or simulated social conflicts (e.g., sharing toys, turn-taking) and guided to express their understanding of the situation.
2. **Exploration**
Students discuss feelings and perspectives related to the conflict, supported by teacher-facilitated questions.
3. **Collaboration**
Small groups generate alternative solutions through discussion, role play, or creative activities.
4. **Solution Presentation**
Groups share their proposed resolutions with peers, fostering reflection and social communication.
5. **Reflection**
Teachers facilitate closure by discussing lessons learned, emphasizing empathy, fairness, and cooperation.

Each phase incorporates guided scaffolding consistent with Vygotsky's Zone of Proximal Development (ZPD), enabling children to internalize social understanding through interaction. The model's design emphasizes flexibility, allowing teachers to adapt activities to classroom themes and individual learner needs.

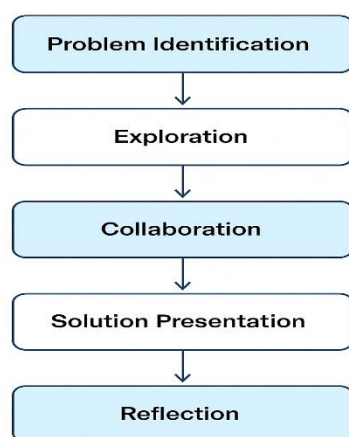


Figure 1. Framework of the Problem-Based Learning integrated with Conflict Resolution (PBL–CR) Model

RESULTS

Preliminary Findings: Children's Baseline Social Skills

The pre-intervention observation phase revealed that children's overall social skills were below the expected developmental benchmark. Across the five domains communication, cooperation, responsibility, self-control, and social awareness mean scores ranged between 2.4 and 2.9 on a five-point scale, indicating emerging but inconsistent competencies. Teachers reported that children often displayed *limited empathy* during group play, struggled to share materials, and required repeated adult intervention to settle disputes. Similar patterns have been noted in comparable early childhood contexts, suggesting that insufficient social-skill scaffolding remains a systemic issue (Handayani & Kaffa, 2025).

Qualitative observations revealed that while children were generally enthusiastic about collaborative activities, their communication tended to be egocentric dominated by individual desires rather than mutual understanding. Emotional regulation was particularly weak; instances of frustration, crying, or refusal to cooperate were frequent when conflicts emerged. Teachers acknowledged that while they emphasized positive behavior, they lacked structured approaches to transform conflicts into learning moments.

Preliminary interviews with teachers underscored an urgent need for a structured pedagogical model integrating emotional literacy and cooperative learning. Teachers highlighted the difficulty of maintaining group harmony during project work and expressed interest in models that guide children toward active problem-solving rather than passive compliance. These insights informed the design of the PBL–CR model, ensuring its responsiveness to teachers' and learners' real-world needs.

Table 2. Baseline Mean Scores of Children's Social Skills Across Five Dimensions (n = 58)

Dimension	Mean (Pre-test)	Standard Deviation	Category
Communication	2.87	0.41	Emerging
Cooperation	2.58	0.38	Low
Responsibility	2.92	0.46	Emerging
Self-Control	2.49	0.44	Low
Social Awareness	2.63	0.39	Low
Overall Mean	2.70	0.42	Emerging

Note. Scoring scale = 1 (Very Low) – 5 (Very High). Pre-test data collected during preliminary observations (Week 1).

Expert Validation of the Model

Expert review of the preliminary PBL–CR model yielded high feasibility scores across all validation dimensions. Using a 5-point rubric, experts rated the model's developmental appropriateness at 4.72, content relevance at 4.65, and cultural suitability at 4.80, resulting in an overall mean validation score of 91.6% (very feasible). Experts particularly praised the integration of conflict-resolution activities as developmentally appropriate for 5–6-year-old children, aligning with their natural social interactions and emotional expression.

Qualitative feedback from experts highlighted two key strengths: (1) the alignment between theoretical underpinnings (constructivism and socio-emotional learning) and practical classroom strategies, and (2) the clarity of instructional phases allowing teacher flexibility. Nonetheless, some experts recommended the inclusion of reflective storytelling and emotion cards to strengthen children's capacity for perspective-taking. These suggestions were subsequently integrated into the model's revision.

This validation phase ensured that the model was both theoretically coherent and contextually grounded before implementation. As Creswell and Guetterman (2023) emphasize, such formative validation is essential in R&D studies to ensure construct validity prior to experimental testing.

Table 3. Summary of Expert Validation Scores by Criteria (n = 5 Experts)

Validation Criteria	Mean Score (1–5)	Percentage (%)	Category	Expert Comments Summary
Developmental Appropriateness	4.72	94.4	Very Feasible	Activities suit children's socio-emotional maturity.
Content Relevance	4.65	93.0	Very Feasible	Problem scenarios align with classroom realities.
Cultural Suitability	4.80	96.0	Very Feasible	Integrates local values (e.g., <i>gotong royong</i>).
Clarity of Instructional Phases	4.58	91.6	Very Feasible	Phases clearly sequenced; teachers can easily follow.

Practical Implementability	4.50	90.0	Feasible	Requires moderate training for consistent application.
Overall Average	4.65	91.6	Very Feasible	Model accepted for pilot classroom implementation.

Note. Validation conducted by three ECE experts and two educational psychologists; scale = 1 (Poor) – 5 (Excellent).

Implementation and Quantitative Outcomes

Following eight weeks of implementation, children's post-test results showed significant improvement across all five domains of social skills. The paired-sample t-test revealed $p < 0.001$, confirming statistical significance. The highest gain scores were observed in cooperation (+38%), followed by self-control (+35%), communication (+33%), responsibility (+31%), and social awareness (+28%). The overall mean increase across domains was 32.4%, indicating substantial developmental progress.

The quantitative findings were supported by an effect size (Cohen's $d = 1.12$), which falls within the large category, suggesting that the PBL–CR model had a strong practical impact on children's social-skill enhancement. These results align with prior evidence emphasizing that experiential, problem-centered learning accelerates socio-emotional growth (Rahman & Nordin, 2024).

Further analysis by gender and school type revealed no significant differences, suggesting that the model's effectiveness was consistent across demographic variables. This indicates the model's generalizability and adaptability for diverse early childhood settings.

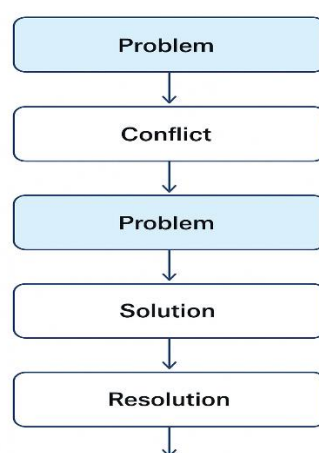


Figure 2. Integration of Conflict Resolution in Problem Based Learning

Qualitative Findings: Teacher and Child Responses

Teachers' qualitative feedback confirmed that the PBL–CR model transformed classroom dynamics from teacher-directed instruction to collaborative learning environments. They reported noticeable improvements in children's verbal communication, ability to share materials, and willingness to cooperate during play. One teacher noted, "Children no longer wait for me to solve their problems they start asking each other how to fix things."

Observations also revealed heightened emotional literacy children began to express feelings using vocabulary such as angry, sad, happy, fair, and sorry, and demonstrated greater patience in turn-taking activities. The role-play phase was particularly effective in fostering empathy, as children were encouraged to imagine themselves in others' positions.

Teachers expressed appreciation for the structured yet flexible nature of the model. They valued that each phase problem identification, exploration, collaboration, solution presentation, and reflection provided clear guidance yet allowed room for creativity. These qualitative findings confirm that the PBL–CR approach not only improves children's social skills but also enhances teachers' pedagogical confidence in facilitating socio-emotional learning.

SUMMARY OF FINDINGS

Overall, both quantitative and qualitative data corroborate that the Problem-Based Learning model integrated with Conflict Resolution effectively enhanced children's social skills. The observed improvements were not limited to behavioral compliance but extended to genuine interpersonal competence children's ability to express emotions, empathize, cooperate, and regulate impulses in social contexts.

The findings substantiate the theoretical proposition that social skills develop most effectively through guided participation in authentic social problem-solving. They also reinforce the importance of teacher facilitation that encourages reflection and dialogue rather than unilateral discipline. Consequently, the PBL–CR model contributes not only to the field of early childhood pedagogy but also to broader discourses on socio-emotional education and peace-oriented learning in pluralistic societies.

DISCUSSION

The findings of this study demonstrate that integrating Conflict Resolution (CR) strategies into Problem-Based Learning (PBL) significantly improves young children's social skills, affirming the central hypothesis of this research. Quantitative results showing a 32.4% average increase in social-skill indicators and a large effect size (Cohen's $d = 1.12$) suggest that the PBL–CR model is not merely an incremental improvement but a substantial pedagogical innovation. This aligns with prior studies emphasizing that experiential, inquiry-based learning promotes not only cognitive but also socio-emotional growth (Meyer et al., 2023; Rahman & Nordin, 2024). However, this research extends the literature by illustrating how *structured conflict situations* can be leveraged as learning catalysts for empathy, cooperation, and self-regulation skills that are often difficult to teach through traditional didactic instruction.

From a theoretical perspective, the results validate Vygotsky's socio-constructivist theory, particularly the concept of the *Zone of Proximal Development (ZPD)*, where children achieve higher-order understanding through guided social interaction. Within the PBL–CR framework, conflicts serve as authentic “problems” situated in children's proximal zone of social learning. Teachers' scaffolding during these episodes enables children to internalize prosocial norms through dialogue, reasoning, and reflection rather than obedience. The findings thus expand Vygotskian learning principles beyond academic knowledge to include social-emotional domains, reinforcing the idea that learning and moral growth are inherently social processes (Bruner, 1996; Tudge & Winterhoff, 2023).

The improvement across all five social-skill domains especially cooperation and self-control underscores the model's potential to address emotional literacy deficits identified in early childhood education. Traditional instruction tends to suppress conflict for the sake of order, inadvertently depriving children of the opportunity to negotiate, empathize, and understand diverse perspectives (Lee & Lee, 2022). By contrast, the PBL–CR model reframes conflict as a *pedagogical resource*, transforming potential disruptions into teachable moments. This shift resonates with contemporary *peace education* frameworks emphasizing that emotional regulation and negotiation skills should be cultivated from an early age to build foundations for social harmony (CASEL, 2023).

Furthermore, the model's design exemplifies the integration of cognitive and affective learning, an area often separated in early childhood pedagogy. While previous PBL research predominantly focused on creativity and reasoning (Zami et al., 2024), this study positions PBL as a holistic platform for developing both intellectual inquiry and interpersonal maturity. The ability of children to articulate feelings and propose fair solutions during collaborative tasks indicates that socio-emotional understanding can emerge organically from problem-solving contexts. This reinforces Dewey's (1938) notion that education is most powerful when rooted in experiential reflection where learners act, experience consequences, and reconstruct understanding.

Cultural considerations also enhance the model's relevance within the Indonesian educational context. Rooted in Ki Hajar Dewantara's philosophy of holistic education, the PBL–CR model embodies the principle of *ing madya mangun karsa* guiding learners to construct moral awareness through social engagement. The collectivist values of cooperation (*gotong royong*) and empathy (*tepo seliro*) are deeply embedded in Indonesian culture, making the model culturally congruent and sustainable for long-term implementation. These findings illustrate how indigenous values can harmonize with global educational frameworks like SEL and constructivism, yielding contextually meaningful innovations (Setyowati et al., 2022).

Beyond its empirical outcomes, this study offers an important contribution to the discourse on teacher professional identity. Teachers reported gaining confidence in facilitating emotionally charged situations, moving from authoritarian management toward reflective mediation. This transformation parallels international findings where teachers' own socio-emotional competence influences classroom climate and children's outcomes (Cai et al., 2024). By engaging teachers as co-learners in the PBL–CR cycle, the model fosters professional growth aligned with 21st-century teaching competencies adaptability, emotional intelligence, and learner-centered facilitation.

Finally, the study's implications extend beyond early childhood classrooms to broader educational policy and practice. The results suggest that integrating socio-emotional learning through structured, problem-based approaches could strengthen national curriculum reforms emphasizing character education and holistic development. The PBL–CR model provides a practical template for embedding conflict-resolution literacy into everyday learning activities, thereby cultivating future citizens who are empathetic, collaborative, and resilient in

facing social challenges. As education systems worldwide seek to balance academic excellence with emotional well-being, this model offers a scalable, culturally responsive framework for fostering sustainable social competence from the earliest years.

CONCLUSION

Major Findings

This research aimed to develop, validate, and evaluate the effectiveness of a Problem-Based Learning model integrated with Conflict Resolution (PBL–CR) to improve social skills among children aged five to six years in early childhood education. The results of quantitative and qualitative analyses converge on a strong conclusion: the model is feasible, effective, and contextually relevant. Statistical tests revealed significant improvements across all dimensions of social skills communication, cooperation, responsibility, self-control, and social awareness with an overall mean gain of 32.4%. These findings confirm that the PBL–CR approach provides a robust framework for facilitating holistic child development.

Beyond measurable outcomes, the research uncovered transformative changes in classroom interactions. Teachers reported that children exhibited enhanced empathy, active participation, and increased tolerance during play and problem-solving activities. Conflicts, previously viewed as disturbances, evolved into opportunities for learning. This transformation validates the central premise that when children are guided to resolve social tensions collaboratively, they not only acquire conflict-management skills but also internalize moral and emotional understanding that support lifelong social competence.

The success of the PBL–CR model can be attributed to its developmental appropriateness and cultural congruence. By situating conflict within authentic learning experiences and embedding guided reflection, the model aligns with the natural social-emotional rhythms of early childhood. It also resonates deeply with Indonesian educational values emphasizing character formation, empathy, and mutual respect (*gotong royong*). Thus, the PBL–CR model bridges the gap between global pedagogical innovation and local cultural wisdom.

THEORETICAL AND PRACTICAL IMPLICATIONS

Theoretically, this study advances the discourse on constructivist and socio-emotional learning integration. It demonstrates that cognitive and affective learning processes need not be compartmentalized but can co-exist within the same pedagogical design. The PBL–CR model exemplifies how problem-solving frameworks can be expanded beyond cognitive inquiry to encompass emotional negotiation and moral reasoning. This aligns with the evolving view of education as an ecosystem that nurtures intellect and empathy simultaneously (Tudge & Winterhoff, 2023).

Practically, the model provides a pedagogical innovation that is adaptable for teachers in various early childhood settings. The structured phases problem identification, exploration, collaboration, solution presentation, and reflection offer clarity while maintaining flexibility for contextual adaptation. Implementation of the model also contributes to teacher professional development by shifting instructional roles from directive to facilitative. Teachers become mediators of social learning, helping children articulate emotions and find resolutions through dialogue rather than discipline.

At a policy level, the research supports national efforts to embed Social and Emotional Learning (SEL) and character education into early childhood curricula. The Ministry of Education's emphasis on holistic child development finds practical embodiment in the PBL–CR framework. Thus, this study provides empirical evidence that can inform curriculum reform and teacher training modules, particularly within Indonesia's *Merdeka Belajar* initiative, which prioritizes experiential and contextual learning.

LIMITATIONS OF THE STUDY

While the study offers meaningful contributions, several limitations should be acknowledged. First, the research involved a relatively small sample size 58 children across four preschools which may limit the generalizability of findings. Larger-scale replications across diverse regions and socio-economic contexts would strengthen external validity. Second, the study's intervention period lasted only eight weeks. Longer-term studies are needed to determine whether improvements in social skills are sustained over time and generalized beyond the classroom context.

Additionally, although teacher feedback and expert validation were positive, the study relied primarily on observational and self-reported data. These methods, while rich in contextual depth, may be subject to subjective interpretation. Future research could incorporate standardized socio-emotional assessments and longitudinal

tracking to provide more objective evidence. Furthermore, variations in teachers' facilitation skills could have influenced implementation fidelity, highlighting the importance of ongoing professional support for educators adopting this model.

Despite these limitations, the study successfully fulfills its objectives of developing and validating a feasible and effective instructional model. It lays a strong empirical and theoretical foundation for further innovation in early childhood pedagogy that balances academic, emotional, and moral development.

RECOMMENDATIONS FOR FUTURE RESEARCH

Building upon the present findings, future research should explore longitudinal applications of the PBL–CR model to examine how early social skills cultivated through conflict-based learning evolve into higher-order interpersonal competencies in later schooling stages. It would also be valuable to investigate cross-cultural adaptations of the model in other collectivist and individualist societies to test its cultural elasticity. Comparative studies could reveal how sociocultural norms shape children's responses to conflict and cooperation in learning environments.

Further studies might also incorporate digital and play-based enhancements, such as interactive storytelling, augmented reality, or collaborative online problem-solving platforms, to align with the realities of digital-age learners. Integrating technology could amplify children's engagement while preserving the socio-emotional essence of the PBL–CR framework.

Finally, the model's potential for teacher education and professional training deserves focused investigation. Embedding PBL–CR principles into preservice and in-service teacher programs could yield sustainable improvements in classroom culture and teacher self-efficacy. As the world increasingly acknowledges the role of empathy and cooperation in 21st-century citizenship, the PBL–CR model provides an adaptable, evidence-based approach for cultivating compassionate and socially competent learners.

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