



## Development of an outdoor learning activity: enhancing social skills with local wisdom content for early childhood

*Desarrollo de una actividad de aprendizaje al aire libre: mejorando las habilidades sociales con contenido de sabiduría local para la primera infancia*

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### Abstract

**Introduction and Objective.** Early childhood education in Indonesia predominantly focuses on cognitive aspects, neglecting the development of social skills. Traditional classroom-based approaches limit children's opportunities for authentic social interactions and cultural identity formation. This study aims to develop and evaluate an outdoor learning model that integrates the values of the Kato Nan Ampek local wisdom to improve social skills in early childhood education.

**Methodology.** A Research and Development (R&D) approach was employed using the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model. The study involved 186 children aged 4–6 years from three Early Childhood Education institutions in the city of Padang, along with 12 teachers. Data collection utilized surveys, interviews, and observations, with both quantitative and qualitative analysis techniques.

**Results.** The developed model demonstrated high validity scores (4.29–4.41), indicating strong content adequacy and design quality. Effectiveness testing revealed a significant improvement of 57.4% in children's social skills, with an N-Gain of 0.58 (moderate effectiveness). The model achieved a practicality rating of 82.5% from teachers, confirming its feasibility for real-world implementation.

**Conclusions.** The integration of local Kato Nan Ampek wisdom into outdoor learning successfully improves early childhood social skills while preserving cultural values. This culturally responsive educational approach provides a sustainable framework for developing contextual and effective early childhood education that strengthens both social competencies and cultural identity.

### Keywords

Early childhood education, outdoor learning, social skills development, Kato Nan Ampek.

### Resumen

**Introducción y Objetivo.** La educación infantil temprana en Indonesia se enfoca predominantemente en aspectos cognitivos, descuidando el desarrollo de habilidades sociales. Los enfoques tradicionales basados en el aula limitan las oportunidades de los niños para interacciones sociales auténticas y la formación de identidad cultural. Este estudio tiene como objetivo desarrollar y evaluar un modelo de aprendizaje al aire libre que integre los valores de la sabiduría local *Kato Nan Ampek* para mejorar las habilidades sociales en la educación infantil temprana.

**Metodología.** Se empleó un enfoque de Investigación y Desarrollo (I+D) utilizando el modelo ADDIE (Análisis, Diseño, Desarrollo, Implementación, Evaluación). El estudio involucró a 186 niños de 4-6 años de tres instituciones de Educación Infantil Temprana en la ciudad de Padang, junto con 12 maestros. La recolección de datos utilizó encuestas, entrevistas y observaciones, con técnicas de análisis tanto cuantitativas como cualitativas.

**Resultados.** El modelo desarrollado demostró altas puntuaciones de validez (4.29-4.41), indicando una fuerte adecuación del contenido y calidad del diseño. Las pruebas de efectividad revelaron una mejora significativa del 57.4% en las habilidades sociales de los niños, con una N-Gain de 0.58 (efectividad moderada). El modelo logró una calificación de practicidad del 82.5% por parte de los maestros, confirmando su viabilidad para la implementación en el mundo real.

**Conclusiones.** La integración de la sabiduría local *Kato Nan Ampek* en el aprendizaje al aire libre mejora exitosamente las habilidades sociales de la primera infancia mientras preserva los valores culturales. Este enfoque educativo culturalmente receptivo proporciona un marco sostenible para desarrollar una educación infantil temprana contextual y efectiva que fortalece tanto las competencias sociales como la identidad cultural.

### Palabras clave

Educación infantil temprana, aprendizaje al aire libre, desarrollo de habilidades sociales, Kato Nan Ampek.

## Introduction

Early Childhood Education (ECE) plays a critical role in shaping the foundation of children's social, emotional, cognitive, and character development (Ghosh, 2024). During this phase, children require appropriate stimulation to develop various skills that will serve as a foundation for their future. The Indonesian National Education System Law No. 20 of 2003 emphasizes that early childhood education aims to support both physical and spiritual growth and development, which forms the basis for their readiness for subsequent education (Nurhayati, 2020). Therefore, it is crucial to create a learning environment that fosters the development of social skills, as they are essential for children's social interactions (Niu et al., 2025). Good social skills facilitate children's adaptation, help them build healthy interpersonal relationships, and enable them to face larger social challenges over time (Padhy & Hariharan, 2023).

In practice, however, the development of social skills in early childhood often receives insufficient attention. Early childhood education in Indonesia, while continuously progressing, is still dominated by approaches focused more on cognitive aspects, such as reading, writing, and arithmetic (K & Fatmawati, 2024). In fact, during early childhood, children need broader opportunities to develop their social skills, which are essential for shaping their social identity (Kiptiah, 2023). Insufficient social skill stimulation can impact children's ability to cooperate, share, and empathize, which are integral parts of their social life. Furthermore, its effect on social interactions in school and community environments can be observed in children's limited ability to express feelings and build relationships with peers (Maleki et al., 2019).

Moreover, the educational approach often used in kindergartens is typically limited to classroom-based learning. This reduces opportunities for children to learn through real-life experiences that they can encounter outside the classroom (Boloudakis et al., 2024). As an alternative, outdoor learning offers a more contextual and authentic approach, allowing children to learn through direct exploration of their environment (Pérez-Brunicardi et al., 2022). According to Tb (2023), outdoor learning not only helps children become more familiar with nature but also provides opportunities for meaningful social interactions, such as working in groups or solving social problems with peers. This type of learning enriches children's experiences with cognitive skills while also enhancing their social competencies, which later influences their ability to adapt to more complex social situations (Molyneux et al., 2022).

Outdoor learning as an approach to stimulate social skills in early childhood has significant potential. Research conducted by Yıldırım & Akamca, (2017) shows that outdoor learning can significantly improve children's social, cognitive, and motor skills. The interactions that occur in outdoor settings, both with peers and the natural environment, facilitate the development of social skills such as verbal and non-verbal communication, empathy, and cooperation (Zîriņa et al., 2021). Children engaged in outdoor learning can develop their social skills through collaborative and communicative activities, which allow them to practice recognizing and understanding social rules in their environment. Beames et al. (2012) suggest that outdoor learning offers a more contextual and authentic experience, allowing children to develop communication, collaboration, and problem-solving skills in real-life situations. Moreover, outdoor learning encourages cognitive and physical development, as children engage in physically challenging activities, such as playing outdoors or collaborating to solve problems. Waller and Bitou (Waller & Bitou, 2011) found that outdoor learning increases children's motivation and engagement in the learning process, making them more active and motivated to learn. However, despite outdoor learning being proven effective, its implementation remains limited in many schools. Many schools have not yet utilized the surrounding environment as a learning resource to help children learn through direct experience.

The lack of integration of local cultural values in education is also a critical issue that needs attention, as these values can provide an additional dimension that enriches children's learning experiences. In West Sumatra, particularly within the Minangkabau community, there is a rich cultural philosophy, one of which is *Kato Nan Ampek*. This philosophy teaches the importance of respectful communication between individuals, whether with parents, peers, or younger children (Chaniago & Alfikri, 2022). These values are highly relevant for application in early childhood education, as they can help children understand how to interact politely and respect others in social situations. *Kato Nan Ampek* is a Minangkabau communication philosophy that consists of four main principles in communication: *Kato Mandaki* (speaking to elders), *Kato Manurun* (speaking to younger individuals), *Kato Mandata* (speaking to



peers), and *Kato Malereang* (speaking to those who are respected) (Murni & Kurniawati, 2023). These values are not only important for everyday life but also highly relevant for application in early childhood education to stimulate children's social skills through respectful communication.

An approach that integrates *Kato Nan Ampek* within outdoor learning has the potential not only to enhance children's social skills but also to revitalize and introduce local wisdom values to younger generations. In this context, education based on local cultural values can enrich children's learning experiences by incorporating cultural values into every interaction they have outdoors (Hill, 2021). This approach not only provides more meaningful learning experiences but also strengthens children's cultural identity as part of a society that values social norms. For example, through learning based on *Kato Nan Ampek*, children can learn to speak politely, respect one another, and collaborate with peers in various social interaction activities (Kharisma et al., 2023).

By integrating outdoor learning and *Kato Nan Ampek* values in early childhood education, it is expected that a more contextual, authentic, and socially developmentally appropriate learning environment can be created. Therefore, this study aims to develop an outdoor learning model based on the local wisdom values of *Kato Nan Ampek* to stimulate the social skills of young children. Specifically, the research aims to develop an outdoor learning model that integrates *Kato Nan Ampek* values to stimulate early childhood social skills, test the effectiveness of this model in enhancing social skills, and evaluate its practicality in educational settings.

This research is expected to provide significant benefits for educators, children, and the broader development of early childhood education curricula. For educators, this research will provide practical guidelines for integrating outdoor learning and local wisdom values to stimulate children's social skills. For children, the study aims to create more meaningful learning experiences that will support the development of their social skills. More broadly, this research will contribute to the development of early childhood education curricula in Indonesia by introducing a more contextual and culturally based learning model. Therefore, this research not only provides solutions to challenges in the development of early childhood social skills but also introduces an approach that integrates local cultural values, enriching children's learning experiences holistically.

## Method

This study employs a Research and Development (R&D) design to develop an outdoor learning model based on the local wisdom values of *Kato Nan Ampek*, aimed at stimulating the social skills of early childhood. The research model used in this study follows the ADDIE model (Analysis, Design, Development, Implementation, Evaluation), which consists of five systematic stages: problem analysis, model design, product development, model implementation, and evaluation of the resulting product (Mariam & Nam, 2019). The ADDIE model was chosen because it allows for continuous evaluation and refinement at each stage, ensuring that the developed model is valid, practical, and effective for application in early childhood education.

## Procedure

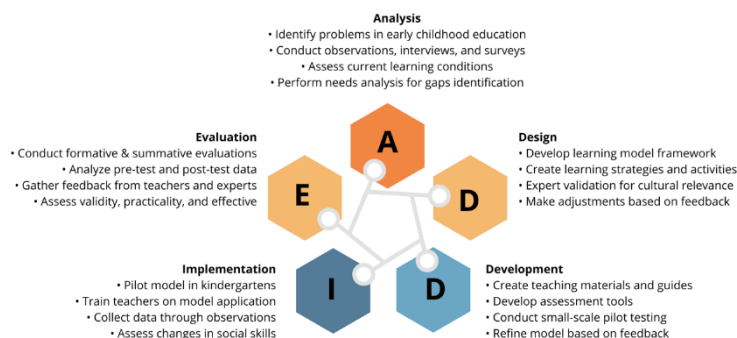
This study follows the ADDIE process, consisting of five phases: analysis, design, development, implementation, and evaluation. In the Analysis phase, the main objective is to identify issues and understand the context of early childhood education related to social skill development. Data is collected through observations, interviews, and surveys of teachers and educational staff to assess current learning conditions and challenges. A needs analysis is conducted to identify gaps in existing practices and determine areas where the *Kato Nan Ampek*-based learning model can offer solutions. In the Design phase, the learning model framework is developed based on findings from the analysis, including learning strategies, activities, and materials. Validation by experts ensures cultural relevance and feasibility, followed by adjustments to improve its quality and applicability.

In the Development phase, teaching materials such as the model book, teacher's guide, and student workbook are developed. These materials support social skill development, and assessment tools for measuring social skills are created. A small-scale pilot test is conducted to assess the model's practicality, with feedback used for refinement. The Implementation phase involves piloting the model in several



kindergartens, with teachers trained on applying the outdoor learning model. Data is collected through observations, interviews, and surveys to assess changes in children's social skills before and after model implementation. In the Evaluation phase, formative and summative evaluations assess the model's effectiveness. Data from pre-tests and post-tests are analyzed for significant changes, and feedback from teachers and experts evaluates the model's validity, practicality, and effectiveness. The overview of research stages are visualized as is Figure 1 below.

Figure 1. ADDIE Model research stages



ADDIE Model Research Stages

Fuente: Author

## Research Participant

The subjects of this study involve early childhood children and teachers from three selected Early Childhood Education (ECE) institutions using purposive sampling (Memon et al., 2024): PAUD Mekar Sari, TK Plus Marhamah, and TK Melati Ikhlas in Padang City. A total of 186 children aged 4-6 years will participate in the study, along with the teachers involved in the implementation of the learning model. The selection of subjects was based on the readiness of the institutions and teachers to implement outdoor learning based on Kato Nan Ampek.

## Research Instruments

The research instruments consist of several tools to collect both qualitative and quantitative data, including surveys, interviews, and observations. Surveys will be used to assess teachers' needs regarding the learning model, the validity of the products, and the practicality of the learning model. Interviews will be conducted to gather in-depth information from teachers and school principals regarding their experiences in implementing the developed model. Observations will be carried out to assess children's social skills before and after the implementation of the learning model, both through direct observation by the researcher and by teachers acting as observers.

To ensure systematic data collection and comprehensive evaluation of the developed learning model, multiple research instruments were employed throughout different phases of the study. The instruments were designed by researcher teams. Table 1 presents the detailed specifications of each instrument, including their specific purposes, target respondents, data collection formats, and implementation timeline within the research framework.

Table 1. Summary of Research Instrument Profiles

No.	Instrument Name	Purpose	Target Group	Format/Scale	Administered by	Usage Time
1	Teacher & Principal Needs Questionnaire	To explore the needs and views on the developed learning model	Teachers and School Principals	Open and closed-ended questionnaire	Teachers and Principals	Initial needs analysis phase

2	Product Validation Questionnaire	To assess the feasibility of the developed products (model book, teacher's guide, student book)	Experts/Validators (academics, early childhood practitioners)	Likert scale	Validators (content, language, design experts)	Before field trial (validity test)
3	Practicality Questionnaire	To gather opinions on the implementation of the learning model	Preschool Teachers involved in the trials	Likert scale	Researcher	After small and large group trials
4	Social Skills Observation Sheet	To observe social behavior of early childhood students before and after the model implementation	Early childhood students participating in learning	Observation	Main researcher & Assistant preschool teacher	During small and large group trials

## Data Analysis

The data collected from surveys will be analyzed using descriptive statistical analysis techniques for quantitative data, including validity and effectiveness tests of the model that using a Likert scale. For qualitative data, thematic analysis will be employed to identify patterns in interview and observation data related to the impact of the learning model on children's social skills. Through this systematic methodology, this study aims to develop and evaluate an outdoor learning model based on Kato Nan Ampek values that can enhance the social skills of early childhood children with an approach that is relevant to local wisdom.

## Results

The ADDIE model, an acronym for Analyze, Design, Develop, Implement, and Evaluate, was applied in the development of an outdoor learning model based on the Kato Nan Ampek local wisdom values to stimulate social skills in early childhood. In the analysis phase, the research team explored the existing learning conditions through interviews, surveys, and observations of educators. This initial analysis revealed the challenges faced by teachers in fostering children's social skills, such as effective communication and teamwork. It also highlighted the potential for integrating outdoor learning experiences rooted in local cultural values, which led to a rethinking of the instructional approach for early childhood education. The summary of key finding from needs analysis stage can be seen at table 2.

Table 2. Summary of Findings from the Needs Analysis and Issues

Aspect	Main Findings	Source of Information	Implications
Learning Methods	Demonstrations, experiments, role-playing, conversations, coloring, and counting are mostly conducted in the classroom.	Observation and Surveys	There is a need for an active, experiential learning model.
Children's Social Skills	Children show less concern for others, prefer playing alone, find it difficult to share, and lack cooperation.	Surveys, Interviews, and Observation	There is a need for learning that encourages direct social interactions.
Learning Model Requirements	A contextual, culturally-based learning model that stimulates children's social interactions.	Survey	A new model must integrate values and meaningful outdoor learning.
Use of Outdoor Activities	Outdoor activities are not yet a routine part of the curriculum; they are limited to thematic visits (e.g., to the beach, mosque, fire station, traditional house).	Surveys, Interviews, and Observation	There is a need to integrate outdoor activities into daily learning.
Teacher Understanding	Teachers still lack explicit strategies to stimulate social skills.	Interviews	Training/socialization on appropriate approaches is needed.
Parental Involvement	Parents tend to emphasize academic aspects.	Interviews	A collaborative approach between school and parents is needed.

Following the analysis, the design phase focused on creating a blueprint for the learning model, integrating local wisdom from Kato Nan Ampek. This phase included developing the framework for the outdoor learning environment, the learning syntax, and instructional materials such as teacher's guides and student workbooks. The design emphasized experiential learning methods and was structured to encourage children's social interactions in a natural setting. The model was conceptualized to ensure alignment with cultural values, fostering communication and cooperation in diverse social contexts. The transformation of module cover that designed over design phase can be seen at Figure 2, figure 2, figure 3 and Figure 4.





Figure 2. Transformation of Learning Model Module Book



Fuente: Author

Figure 4. Transformation of Student Module Book



Fuente: Author

The implementation phase involved piloting the model in real-world settings, with teachers applying the model in outdoor settings with children. The results showed an improvement in children's social skills, indicating the model's effectiveness in stimulating communication, empathy, and teamwork. The final evaluation phase measured the model's success using pre- and post-assessment data, confirming its effectiveness in enhancing social skills.

### Validity of the Learning Model

The validity of the learning model based on the local wisdom values of Kato Nan Ampek was assessed through expert judgment involving two expert validators. The validators evaluated four developed learning products: the Model Book, Student Book, Teacher's Book, and Teaching Module. The aspects assessed included content/construct validity, language appropriateness, and graphic design. The validation results showed that all learning products had very high validity scores presented at table 3, with an average score above 4.0. The Model Book received the highest score (4.41), followed by the Teaching Module (4.39), Teacher's Book (4.32), and Student Book (4.29). The "highly valid" category for all products indicates strong suitability for implementation in early childhood education, both in terms of content substance, language readability, and visual appeal suited to children's characteristics.

Table 3. Validity Results of Learning Model Products

Product	Average Score	Category
Model Book	4.39	Highly Valid
Student Book	4.29	Highly Valid
Teacher's Book	4.32	Highly Valid
Teaching Module	4.41	Highly Valid

## Learning Needs Analysis

The preliminary study identified significant gaps between the actual learning conditions and the ideal needs for developing children's social skills in early childhood education. Most of the ECE institutions in the research area still apply an instructional approach, dominated by indoor activities focused on cognitive aspects. The findings revealed three main gaps as presented at table 4: (1) an instructional learning approach versus the need for contextual learning, (2) children's egocentric behavior versus the target of collaborative behavior, and (3) limited use of learning space versus the need for outdoor environmental exploration. These conditions indicate the urgency of developing a more contextual, interactive, and experiential learning model to optimize children's social skill development.

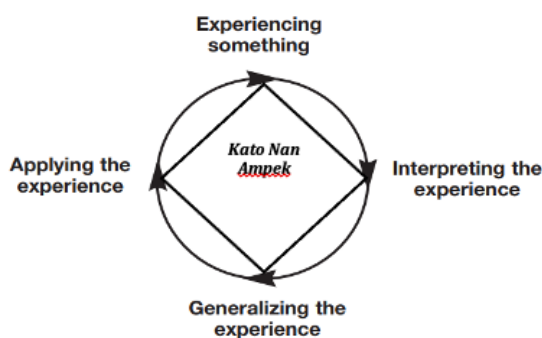
Table 4. Identification of Learning Gaps

Aspect	Actual Condition	Ideal Condition
Approach	Instructional	Contextual
Social Behavior	Egocentric	Collaborative
Learning Environment	Limited Space	Outdoor Exploration

## Characteristics of the Learning Model

The developed learning model integrates outdoor learning with the local wisdom values of Kato Nan Ampek in a systematic learning cycle. Kato Nan Ampek, as a Minangkabau communication philosophy, teaches respectful interaction considering age and social status through three principles: Kato Mandaki (speaking to elders), Kato Manurun (speaking to younger individuals), and Kato Mandata (speaking to peers). The learning cycle in this model consists of four interconnected stages (Figure 5). It begins with experiencing something, where children directly engage in outdoor exploration activities, followed by interpreting the experience to understand the meaning derived from their activities. The third stage, generalizing the experience, helps children draw general conclusions from their specific experiences, and it ends with applying the experience to implement the learning in different contexts. The values of Kato Nan Ampek are integrated into each stage as an ethical foundation for children's communication and social interaction.

Figure 5. Outdoor Learning Cycle Based on Kato Nan Ampek



Fuente: Author

This model adopts a participatory and contextual approach, grounded in real-life experiences for children aged 4-6 years (Groups A and B). The main components include outdoor environmental exploration, the development of verbal and non-verbal communication skills, strengthening empathy and cooperation, and problem-solving through collaborative activities. Each activity is designed to integrate values of politeness and mutual respect in accordance with the local cultural context. Table 5 outlines the key components of the Kato Nan Ampek learning model.

Table 5. Components of the Learning Model

Component	Description
Model Name	Early Childhood Education Model Kato Nan Ampek
Purpose	Stimulate social skills through outdoor learning based on <i>Kato Nan Ampek</i>
Theoretical Basis	Experiential Learning, <i>Kato Nan Ampek</i> Local Wisdom
Characteristics	Participatory, contextual, experiential
Target	Children aged 4-6 years (Groups A and B)
Skill Focus	Communication, empathy, cooperation, problem-solving

### Effectiveness of the Learning Model

The effectiveness of the model was tested using a quasi-experimental design with a pretest-posttest approach involving 85 children as research subjects. The instruments used included a validated social skills observation scale with a maximum score of 36. The pretest results showed an average social skills score of 18.27 (SD=1.62), while the posttest score increased to 28.75 (SD=2.71). The average increase of 10.48 points, or 57.4%, indicates a significant improvement in children's social skills after implementing the learning model. The N-Gain calculation yielded a score of 0.58, categorized as moderate, suggesting that the learning model was quite effective in enhancing early childhood social skills. The test result is completely presented at table 6.

Table 6. Effectiveness Test Results of the Learning Model

Statistic	Pretest	Posttest	Increase
Average Score	18.27	28.75	10.48 (57.4%)
Standard Deviation	1.62	2.71	-
N-Gain	-	-	0.58 (Moderate)
Effectiveness Category	-	-	Moderately Effective

Individual analysis revealed variations in improvement, with N-Gain ranging from 0.22 to 0.88. Approximately 72% of the subjects showed improvement in the moderate to high category (N-Gain  $\geq 0.5$ ), indicating the model's consistent effectiveness for most children.

### Practicality of the Learning Model

The practicality of the model was evaluated through a questionnaire completed by 12 teachers involved in its implementation displayed at table 7. The practicality instrument assessed ease of understanding, application, and the usefulness of the model in daily learning practices. The results showed an average practicality score of 82.5%, indicating that the model was considered practical to apply. The distribution of ratings showed that 50% of items (6 out of 12) reached the "very practical" category ( $\geq 85\%$ ), 33.3% (4 out of 12) were "practical" (75-84%), and the remaining items still required refinement.

Table 7. Practicality Distribution of the Learning Model

Practicality Category	Number of Items	Percentage	Achievement Range
Very Practical	6	50.0%	85-92%
Practical	6	50.0%	69-84%
Overall Average	12	100%	82.5%

These findings suggest that the learning model has a high level of practicality and is easily adaptable by teachers in real-life learning contexts, with the majority of teachers rating the model as efficient and beneficial for developing children's social skills.

## Discussion

### Integration of Local Wisdom in Early Childhood Education

The results of this study indicate that integrating the local wisdom values of Kato Nan Ampek into outdoor learning significantly improves early childhood social skills. These findings align with previous research identifying ethnopedagogy as an educational approach capable of reshaping societal dynamics





by preserving cultural values, thus strengthening a multicultural national identity. The philosophy of Kato Nan Ampek, which teaches respectful communication based on age and social status, provides a strong theoretical framework for developing social skills in a contextual manner (Almufid et al., 2023).

This integrating local wisdom in early childhood education not only preserves cultural values but also enriches children's learning experiences by providing a solid foundation for cultural identity (Sakti et al., 2024). This is in line with Vygotsky's sociocultural theory (Gauvain, 2020), which emphasizes that learning occurs through social interaction within a specific cultural context. In this regard, Kato Nan Ampek acts as a cultural mediator that facilitates children's proximal development zone in developing communication and empathy skills.

The success of the model, as reflected in its high validity scores (ranging from 4.29 to 4.41), demonstrates that the integration of local wisdom can be done systematically and structured, without compromising the academic quality of the learning process. Previous studies have shown that preschool teachers can integrate school vision, educational goals, and community resources to develop and implement local cultural curricula, supporting this study's findings on the practicality of model implementation (Shih, 2022).

### ***Effectiveness of the Outdoor Learning Model***

The 57.4% improvement in social skills achieved in this study confirms the effectiveness of outdoor learning in stimulating children's social development. This finding is supported by research showing that outdoor learning has been proven to develop social and communication skills, persistence, and self-regulation (Kiviranta et al., 2024). Furthermore, being outdoors in a spacious, less teacher-controlled environment provides children the opportunity to exhibit differences in social, emotional, and learning behaviors, such as increased cooperation, more pro-social behavior (Arifiyanti & Suparno, 2024), and sustained focus on tasks.

The N-Gain value of 0.58, categorized as moderate, shows that this learning model has a consistent and measurable impact. Although the result falls in the moderate category, this can be considered satisfactory given the complexity of social skill development, which involves cognitive, emotional, and behavioral aspects simultaneously. The individual variation in improvement (N-Gain ranging from 0.22 to 0.88) suggests that this model can adapt to children's individual characteristics, aligning with the principles of differentiation in early childhood education.

Kolb's experiential learning theory (Kolb, 1984), applied within the context of outdoor learning, has proven effective in facilitating the transfer of social skills from concrete experiences to abstract concepts. The learning cycle, which includes four stages, experiencing, interpreting, generalizing, and applying provides a systematic structure for children to construct their social understanding through direct interaction with their environment and peers.

### ***Pedagogical Innovation and Learning Practices***

The success of implementing the ADDIE model in developing the learning model highlights the importance of a systematic approach to educational innovation. The 82.5% practicality score from teacher evaluations indicates that the model is not only theoretically sound but also practical for real-world application. Outdoor learning offers positive benefits for children, particularly those with social, emotional, and/or behavioral challenges, including improvements in pro-social behavior and social well-being, which supports the practical relevance of the model.

The distribution of the practicality ratings, with 50% of items categorized as "very practical," indicates that the model is strong in certain aspects, which could leverage broader implementation. This is significant for developing teachers' capacity to integrate local wisdom-based learning with outdoor learning approaches.

### ***Comparison with International Best Practices***

The developed learning model aligns with international outdoor education movements, particularly in its emphasis on authentic experiences and contextual learning. While the model is distinctly shaped by local traditions, particularly through the inclusion of Kato Nan Ampek, it shares a philosophical foundation with international outdoor education approaches, particularly the Scandinavian *friluftsliv* (outdoor life) concept. This approach, championed by Baklien & Haaland (2024), posits that outdoor activities



and nature immersion are central to a well-rounded education. Friluftsliv promotes the idea that regular interaction with the outdoors fosters a holistic development of the individual, enhancing physical, emotional, and social well-being.

Similar to friluftsliv, the Kato Nan Ampek-based model encourages children to connect with nature, engage in cooperative activities, and develop social and emotional skills in outdoor settings. The integration of these elements allows for a richer educational experience, one that transcends classroom boundaries and fosters a deeper connection with the environment.

The integration of local cultural values into outdoor learning also contributes to the global discourse on the decolonization of educational practices. Early childhood educators can create inclusive and supportive learning environments by offering children opportunities to learn about different cultures and fostering appreciation and respect for various differences among people and communities.

In the context of global Social-Emotional Learning (SEL), this model demonstrates how core SEL competencies can be culturally adapted without losing their universal essence. Kato Nan Ampek as a communication framework offers a unique contribution to SEL literature by providing an approach based on social hierarchy and specific cultural contexts (Nyanamba et al., 2022).

### ***Implications for ECE Curriculum Development***

The success of this model has significant implications for ECE curriculum reforms in Indonesia. The integration of local wisdom into the national curriculum can be systematically approached, as demonstrated in this study. The Kato Nan Ampek learning model can serve as a prototype for developing other local wisdom-based learning models throughout Indonesia.

From an assessment and evaluation perspective, this study highlights the importance of developing culturally sensitive instruments to measure children's social skills. The social skills observation instruments developed in this study could serve as references for the development of more comprehensive and contextual evaluation tools.

The scalability of this model also needs to be considered, taking into account the cultural diversity across Indonesia. The basic principles of the model can be adapted to different local wisdoms, while maintaining the effective structure of outdoor learning.

### ***Limitations and Future Research Directions***

This study has several limitations that should be acknowledged. First, the sample, which was limited to three ECE institutions in Padang City, restricts the generalizability of the findings. Second, the relatively short duration of implementation did not allow for measuring the long-term impact of this learning model on children's social development.

Future research should explore cross-cultural validation of this model by testing its adaptation in different local wisdom contexts. Longitudinal studies are also needed to understand the sustainability of the social skill improvements achieved. Additionally, research on parental and community involvement in the implementation of local wisdom-based learning models could enrich the understanding of early childhood education ecology.

The integration of digital technology into local wisdom-based outdoor learning is also an exciting area for exploration, especially in the context of hybrid learning that combines outdoor and indoor experiences synergistically.

### ***Contribution to the Sustainable Development Goals***

The developed learning model makes a significant contribution to achieving the Sustainable Development Goals (SDGs), particularly SDG 4 on quality education. The integration of local wisdom into formal education demonstrates efforts to preserve culture while aligning with sustainable development principles that respect diversity and local identities.

The development of environmental awareness through outdoor learning also contributes to fostering a generation more concerned with environmental sustainability. The social skills developed through this model can strengthen social cohesion and build a foundation for a more harmonious and inclusive society.



Overall, this study shows that integrating Kato Nan Ampek local wisdom into outdoor learning can serve as an innovative model for developing contextual, effective, and sustainable early childhood social skills. This model not only provides practical solutions to early childhood education challenges but also contributes to the preservation and revitalization of local cultural values within formal education contexts.

## Conclusions

This research successfully demonstrates that integrating Kato Nan Ampek local wisdom values into outdoor learning creates an effective, culturally-responsive educational model for enhancing social skills in early childhood. The systematic development through the ADDIE framework resulted in a highly valid (4.29-4.41 scores), practical (82.5% teacher approval), and moderately effective (57.4% improvement, N-Gain 0.58) learning model that addresses critical gaps in current early childhood education practices.

The study's significance extends beyond immediate educational outcomes, contributing to several key areas. First, it provides empirical evidence that local cultural values can be systematically integrated into formal education without compromising academic quality. The Kato Nan Ampek philosophy, emphasizing respectful communication based on social hierarchy and age considerations, offers a unique framework for developing culturally-sensitive social-emotional learning approaches that align with international best practices while maintaining local relevance.

Second, the research addresses the urgent need for experiential learning approaches in early childhood education. By moving beyond traditional classroom-based instruction to outdoor exploration, children gain authentic opportunities for social interaction, collaboration, and problem-solving in natural environments. This shift from instructional to contextual learning approaches better supports holistic child development.

The model's contribution to sustainable development goals, particularly SDG 4 on quality education, demonstrates how educational innovations can simultaneously preserve cultural heritage and promote inclusive, equitable learning opportunities. The integration of environmental awareness through outdoor learning also fosters ecological consciousness in young learners.

Future research should explore cross-cultural adaptations of this model across Indonesia's diverse local wisdom traditions, conduct longitudinal studies to assess long-term impacts, and investigate technology integration possibilities. The scalability potential of this approach suggests significant implications for national curriculum reform, offering a prototype for developing culturally-grounded, locally-relevant early childhood education models that strengthen both individual competencies and collective cultural identity while meeting contemporary educational standards and global learning objectives.

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The authors have no conflict of interest.

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