E-B Environment - Behaviour Proceedings Journal

AicE-Bs2026Sokcho

e-IPH e-International Publishing House Ltd., United Kingdom

https://www.amerabra.org/index.php/aice-bs2026sokcho-04-06-jun-2026/

14th Asia-Pacific International Conference on Environment-Behaviour Studies

Kyungdong University Global (KDU Global),Sokcho (Goseong), South Korea, 04-06 Jun 2026

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Child-Led Learning Framework for Developing Holistic Children

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Abstract

In line with Malaysia's 2026 Preschool Curriculum, the outdoor, child-led learning approach is fundamental to holistic child autonomy and development. However, its implementation remains inconsistent. A qualitative study that explores preschool teachers' challenges and strategies as they move toward adopting this approach. Thematic analysis of the 12 semi-structured interviews, using NVivo, identified barriers such as safety concerns and institutional pressures, as well as adaptive scaffolding techniques. By linking teacher agency with child autonomy, a Child-Led Learning Framework is proposed to support educators in this transition as they align practices with SGD 4 for quality education, aimed at holistic child development.

Keywords: Child-Led Learning Framework; Holistic development; Preschool education; SDG 4.

DOI:

1.0 Introduction

Early childhood education is currently shifting away from teacher-led instruction toward child-centered and self-directed inquiry. A key part of this change is outdoor child-led learning, which utilises a child's natural curiosity to drive their development. This approach is essential for holistic growth, supporting the physical, emotional, and social skills children need for lifelong learning.

In Malaysia, this shift is formalised through the implementation of the Malaysian Preschool Curriculum 2026 (KP 26)—this revised curriculum emphasised holistic development, synthesising flexible learning spaces and play-based pedagogies. However, integrating national policy goals into daily classroom instruction remains a challenge. Observations in preschools show that a persistent culture of academic-centered instruction and rigid scheduling often limits the implementation of child-led outdoor learning.

This issue is most evident in urban areas such as the Klang Valley, where institutional pressures, safety concerns, and environmental constraints are prominent. While the national curriculum provides the structural requirements for early education, there is a lack of research on child-led frameworks to support child-led learning in outdoor settings. Teachers often face a professional conundrum: balancing outdoor learning practices with strict safety regulations and meeting standardised learning outcomes.

To address this gap the following research objectives are addressed in this paper:

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1: To identify the environmental and institutional challenges teachers face when facilitating outdoor child-led learning in Malaysian preschools.

2: To explore the three pillars of teacher agency; Spatial, Pedagogical, and Social required to facilitate outdoor child-led learning in alignment with the Malaysian Preschool Curriculum 2026 (KP2026).

2.0 Literature Review

2.1 Theoretical Framework

While Vygotsky focuses on the immediate interaction between teacher and child, Bronfenbrenner's Ecological Systems Theory (1979) provides a broader lens to analyse how outdoor learning is supported across different levels of the educational environment. In this study, the microsystem represents the immediate outdoor setting where child-led exploration occurs and where teachers directly facilitate the Zone of Proximal Development. This layer is influenced by the mesosystem, which encompasses the interaction between the preschool and the home. For instance, the transition toward child-led autonomy often depends on whether parental expectations for academic performance align with the school's pedagogical approach (Puteh & Ali, 2025).

Moving further out, the macrosystem comprises overarching national policies, specifically the Malaysian Preschool Curriculum (KP2026). As a revision of the KSPK, this curriculum provides the structural mandate for play-based and flexible learning, effectively setting the cultural and legal standards for all preschools in Malaysia. By using this framework, the study moves beyond identifying individual barriers to examine how the macrosystem's policy goals are filtered through parental influences in the mesosystem, ultimately shaping the teacher's ability to provide autonomy within the microsystem. This holistic view is supported by recent studies suggesting that teacher confidence in outdoor settings is not just a personal skill, but a result of support from these surrounding ecological layers (Arasaratnam & Singh, 2024; Harji et al., 2026).

2.2 Catalysts for Child-Led Outdoor Learning

The Malaysian preschool system's effective adoption of child-led outdoor learning is driven by several complex catalysts that prompt pedagogical change. Environmental preparedness, especially the availability of secure, comfortable outdoor areas that give children the physical space needed for independent exploration and risk-taking, facilitates this drive to initiate the transition to more autonomous learning contexts.
Additionally, Harji et al. (2026) emphasise that teachers, as "guidance and coaching", can act as a crucial professional catalyst to support holistic development. The mobilisation of resources, including natural and open-ended teaching and learning materials that encourage creative inquiry and allow children to direct their own discovery-based learning and autonomy, supports this process. Outside the classroom, a cooperative ecosystem between schools and the broader community, where residential playgrounds and parks serve as social catalysts and natural exploratory learning grounds, ensuring the long-term sustainability of child-led outdoor activities. Aligning these catalysts ensures that child-led approaches support a more inclusive and equitable educational system in Malaysia aligned with SGD 4 (Quality Education).

3.0 Methodology

The qualitative research design was adopted to explore preschool teachers' experiences with outdoor child-led learning and how they promote autonomy in outdoor environments. How contextual issues, such as safety and resources, affect preschool teachers' practices are also explored to inform the design of the child-led learning framework.

3.1 Teachers and Sampling

12 private preschool teachers with 5 to 10 years of teaching experience from the Klang Valley, identified through purposive sampling, consented to participate in this study. By identifying this group of educators, the proposed framework will be grounded in their practical knowledge and experience of juggling institutional demands and child-led learning in Malaysia's urban and suburban settings.

3.2 Data Collection

Semi-structured interviews were conducted used as they offer a flexible yet structured means of exploring preschool teachers' experiences with outdoor learning. To accommodate the teachers' work schedules, interviews were conducted online, recorded, and transcribed using Microsoft transcription tools.

4.0 Findings

This section is organised to address the research objectives. Direct quotes are cited for each theme to represent each theme's perspective accurately. These excerpts are provided as spoken, with translations included where the native language was used. Themes are sequenced by frequency of mention. To ensure confidentiality, teachers are labelled T1-T12. These findings illustrate the practical disconnect between the national policy goals of the 2026 Malaysian Preschool.

4.1 Challenges Teachers Face
Environmental Constraints

Teachers described several environmental challenges that limited the effectiveness of outdoor child-led learning. Some teachers highlighted limited space, uneven ground, and weather disruptions that disrupted children's outdoor learning and exploration. T2 and T12 both emphasised the limited outdoor areas, which made free play difficult. Weather-related issues, such as flooding and sudden temperature changes, further limited outdoor sessions.

> ...The space is quite small... we can't let them run freely. The space is very limited... they bump into each other. During rainy season our area floods, and sometimes it gets too hot or suddenly rains... (T2)
> ... The outdoor area is poorly maintained and the ground is uneven, which makes it hard for the children to explore safely... (T12)
> ... Sudden rain means we have to stop everything and go inside immediately, which disrupts the children's focus... (T7)

Resource Limitations

Teachers highlighted limitations in outdoor materials, noting that existing resources deteriorated quickly and were insufficient to support child-led exploration. All teachers explained that exposure to weather caused materials to break easily, while limited quantities led to conflicts among children. Budget restrictions further prevented the timely replacement of damaged items.

> ... Materials crack because of the sun and rain... they don't last. We don't have many materials... children fight over the same things. We cannot replace items often because the budget is limited... (T3)
> ... We have very few tools for sand play, so the children end up arguing over who gets to use the shovel... (T4)
> ... Most of the equipment is old and sun-damaged, making it unsafe for children to use for a long time... (T1)

Safety and Supervision Challenges

Safety concerns play a central role in developing teachers' decisions about outdoor child-led learning. Some teachers expressed worry about the risk of injuries, particularly when managing large groups of children. While some teachers highlighted fears of children falling or hurting themselves, while others emphasised the challenge of monitoring all areas of the outdoor space due to visual blind spots.

> ... I worry they will fall or hurt themselves. I'm scared someone will fall or get hurt. There are blind spots... I cannot see all the children at once... (T6)
> ... Managing children outdoors by myself is stressful because I cannot guarantee everyone's safety at every second... (T8)
> ... Some areas of the playground are hidden from my view, so I have to keep moving constantly to supervise everyone... (T3)

Curriculum and Institutional Pressures

Academic requirements and administrative expectations restricted the time available for outdoor child-led learning. Teachers explained that completing the academic syllabus was prioritized, often at the expense of outdoor activities, and similarly noted that parents placed greater value on academic outcomes than on play-based learning.

…We don't have enough time because we need to finish the syllabus. Parents expect academics... they don't always value outdoor play. Admin wants us to follow the timetable strictly…(T3)
…The syllabus is just so heavy. We want to be outside, but the pressure to reach academic benchmarks means we're stuck at our desks just to stay on track with the curriculum…(T5)
…It's hard to justify 'play' to parents who only care about test scores. Between their expectations and the administration's strict timetable, child-led outdoor time feels like a luxury we can't afford…(T8)

Behavioural Challenges

Teachers experienced behavioural difficulties that affected the implementation of outdoor child-led learning. Frequent conflicts occurred among children, particularly when sharing limited outdoor materials.

…They fight over toys when it's outdoor time. Some children become overexcited outdoors. I am unsure how much freedom to give them…(T9)
…Outdoor play often turns into a battle over the limited toys. The kids get so wound up that I'm constantly stepping in to stop the fighting instead of letting them lead their own learning…(T12)
…I struggle with how much freedom to allow. When they get overexcited, the conflicts over materials start, and it feels like I'm just refereeing rather than teaching…(T10)

4.2 Strategies Teachers Use
The strategies the teachers used to facilitate child-led learning while maintaining order.

Intentional Outdoor Environment Design

Teachers intentionally structure outdoor spaces with learning zones and rotation systems to support child-led exploration. These designs allowed children to move freely while maintaining organisation and flow of the activities. Teachers described using multiple zones and grouping strategies to enable autonomy within a clear structure.

... We have zones such as sandpit, planting, block area. I divide them into small groups and let them rotate...(T3)
... I set up different stations so that children can choose where they want to go based on their interests...(T10)
... Creating specific boundaries for each activity helps the children understand where they can explore freely...(T4)

Safety Routines and Behaviour Modelling

Clear safety routines and behaviour modelling were used to prepare children for outdoor play and maintain safe learning environment. The teachers emphasised the importance of giving instructions beforehand and modelling appropriate behaviours to promote positive interactions.

... I give clear instructions before they start. We model behaviour like apologising... (T1)
... We practice how to use the equipment safely together before I let them play on their own...(T2)
...Modeling how to share and wait for a turn reduces the number of conflicts during outdoor time... (T3)

Scaffolding Through Questions and Prompts

Teachers scaffolded children's cognitive development through questioning techniques that encouraged exploration without compromising autonomy. Teachers described using open-ended questions and prompts to enhance children's engagement while maintaining child-centred learning.

... I ask them questions to guide their thinking. I use open-ended questions to help them explore... (T1)
... Instead of telling them what to do, I ask 'What do you think will happen if we add more water to the sand?'... (T2)
... I use prompts to encourage them to solve their own problems during play rather than stepping in immediately...(T4)

Collaborative Ecosystems of Support

Teachers explained that they provided emotional support and gradually introduced fearful children to unfamiliar experiences. Collaborative practices were also evident, as teachers discussed suitable activities with their colleagues.

…Our teaching community is our biggest asset; we brainstorm together to ensure fearful children feel secure during outdoor play…(T1)
…We rely on the collective wisdom of our peers to create a supportive 'safety net' for children exploring the outdoors… (T2)
…By working as a united community, we share strategies that help us gradually introduce unfamiliar experiences to the kids…(T3)

5.0 Discussion

This study explored how teachers consistently implement outdoor, child-led learning within the Malaysian 2026 Preschool Curriculum (KP 26). The findings reinforce the existing literature on the profound impact of physical infrastructure on pedagogy, confirming that space and resource limitations are primary determinants of the frequency and quality of outdoor sessions. Furthermore, teachers' pedagogical choices are heavily constrained by institutional pressures and the prioritization of academic performance. This alignment between rigid school requirements and high parental aspirations is consistent with established research on the Malaysian educational context, where academic outcomes often overshadow play-based learning.

From the lens of Bronfenbrenner's Ecological Systems Theory (1979), the results highlight how children can overcome phobias and behavioral conflicts through teachers' emotional and practical support within the microsystem. The data suggest that teachers bridge the gap between child-led interests and academic objectives through deliberate, scaffolded interactions and open-ended questioning. This indicates that even when parents are reluctant to volunteer directly, a strong mesosystem can be created when teachers provide clear instructions and resources, allowing parents to support their children's development at home. Such collaboration creates a multi-layered support system essential for the long-term sustainability of educational programs.

The ultimate contribution of this research is the Child-Led Learning Framework for Developing Holistic Children, which serves as a functional link between KP 26 policy objectives and the practical realities of urban Malaysian preschools. The framework emphasizes three dimensions of teacher agency necessary to navigate environmental and institutional challenges. First, teachers exercise Spatial Agency (Pillar 1) by restructuring restricted urban spaces into intentional "Learning Zones" to maintain the flow of movement. Second, they utilize Pedagogical Agency (Pillar 2) by acting as expert coaches who use the Zone of Proximal Development (ZPD) to move away from rigid instruction toward exploration. Finally, through Social Agency (Pillar 3), teachers build collaborative ecosystems and two-way

communication with parents validating the academic value of play and ensuring the program's enduring success.

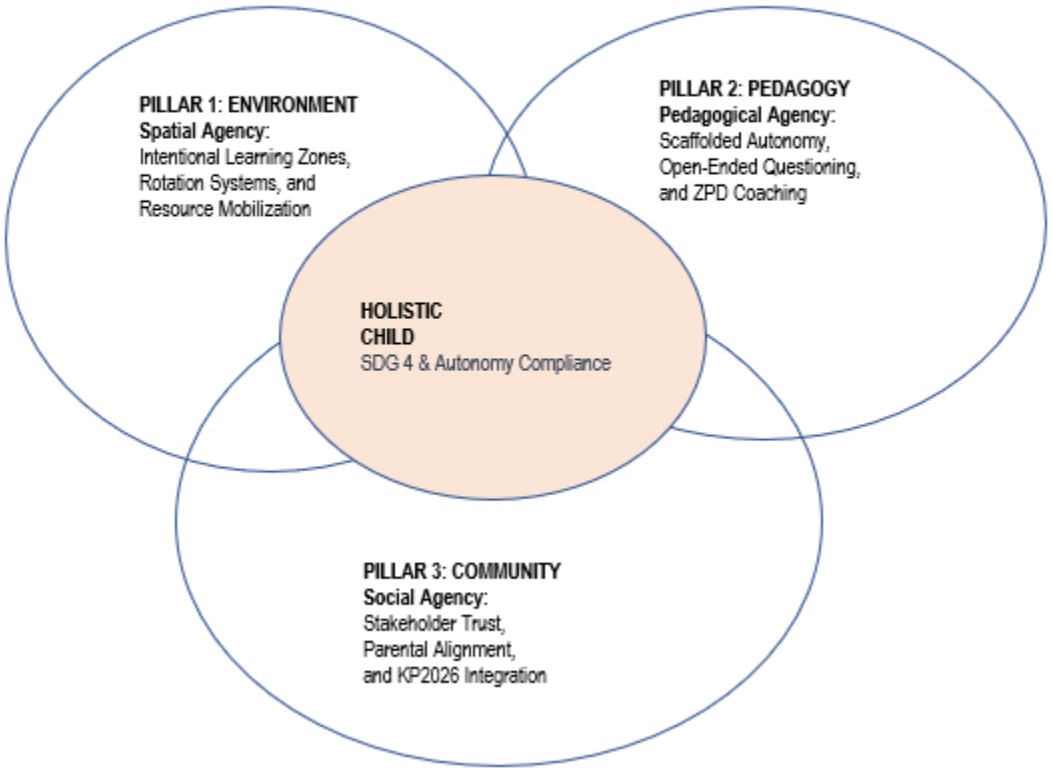

Figure 5.1: Child-Led Learning Framework for Developing Holistic Children

As illustrated in Figure 5.1, the Child-Led Learning Framework for Developing Holistic Children centers on the holistic development of the child, supported by the intersection of three operational pillars: Spatial Agency (intentional environmental design), Pedagogical Agency (scaffolded autonomy), and Social Agency (collaborative community ecosystems). These pillars are encapsulated within the domain of Teacher Agency, emphasising that professional resilience is the fundamental driver for successfully transitioning toward the Preschool Curriculum 2026 KP 26 and aligning with SDG 4 objectives.

6.0 Conclusion

In conclusion, successfully implementing outdoor child-led learning in urban Malaysian preschools requires a delicate balance between pedagogical ideals and environmental realities. Although the National Preschool Curriculum 26 offers a strong policy foundation, teachers must possess high degrees of professional resilience and agency to overcome substantial institutional and physical obstacles.

This study has proposed that the Child-Led Learning Framework for Developing Holistic Children serves as an essential tool for educators to navigate these challenges. By exercising spatial, pedagogical, and social agency, teachers can effectively link academic requirements with the developmental advantages of child-led play. Ultimately, empowering teacher agency is the key to ensuring that the transition toward the 2026 curriculum leads to the quality, holistic development of the next generation of Malaysian learners.

7.0 Recommendations

To establish stakeholder trust and demonstrate academic value, preschool administrators should facilitate regular, two-way communication with parents to validate the benefits of play-based learning. Teachers should utilise the Child-Led Learning Framework to intentionally design learning zones that accommodate constrained urban spaces, thereby exercising spatial agency.

To scaffold children's learning and ensure that child-led discovery aligns with national syllabus aims, educators are urged to employ open-ended questioning strategies and pedagogical agency to guide children through their Zone of Proximal

Development. Regarding policy, the Ministry of Education should prioritise the maintenance and security of outdoor facilities and offer specialised professional development to implement the 2026 Preschool Curriculum KP 26 in densely populated urban areas such as the Klang Valley.

Lastly, to monitor the long-term effects of the Child-Led Learning Framework for Developing Holistic Children on learner development, future research should broaden its geographic focus to include rural Malaysian preschool contexts, enabling a comparative analysis of social and environmental agency across diverse settings.

Acknowledgement
We appreciate the Klang Valley preschool teachers for sharing their time and experiences.

Paper Contribution to Related Field of Study

The primary contribution of this study to early childhood education is the Child-Led Learning Framework for Developing Holistic Children, which enables teachers to effectively integrate outdoor child-led learning into the KP 26.

Grounded in Bronfenbrenner's Ecological Systems Theory, this framework provides a robust approach for navigating institutional and environmental restrictions while maintaining educational quality. The study demonstrates that by utilizing scaffolded interactions within the child's Zone of Proximal Development (ZPD), teachers can bridge the gap between policy and practice. Furthermore, by emphasizing the three pillars of teacher agency (Spatial, Pedagogical, and Social), this research offers a strategic model for managing the complex school ecosystem, ensuring that play-based learning remains both sustainable and aligned with national curriculum objectives.

References *(Max 1 page)*

Asril, N. M., Syahrudin, D., & Permatasari, A. (2023). Outdoor learning activities in early childhood education. *Journal of Sport Science and Education (JOSSAE)*, *8*(1), 46–56. https://doi.org/10.26740/jossae.v8n1.p46-56

Bava Harji, M., Gitalis, J., & Abdullah, S. (2017). Navigating the curriculum: Parental expectations and the reality of play-based learning in Malaysian preschools. *Journal of Early Childhood Education*, *12*(3), 45–62.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.

Ernst, J., Johnson, T., & Burkart, A. (2023). Supporting young children's self-regulation through nature-based practices in preschool. *Frontiers in Psychology*, *14*, Article 1174675. https://doi.org/10.3389/fpsyg.2023.1174675

Johnstone, A., Hughes, K., Martin, C., & Bird, W. (2022). Nature-based early childhood education and children's social, emotional, and cognitive development: A mixed-methods systematic review. *International Journal of Environmental Research and Public Health*, *19*(10), 5967. https://doi.org/10.3390/ijerph19105967

Johnstone, A., Martin, C., & Bird, W. (2022). Nature-based early childhood education and children's physical activity, sedentary behavior, motor competence and health outcomes: A mixed-methods systematic review. *Sports Medicine - Open*, *8*(1), 1–15. https://doi.org/10.1186/s40798-022-00435-z

Journal of Childhood and Early Schooling (J-CES). (2023). How early learning and childcare programs embrace outdoor play: Strategies and barriers. *J-CES*, *3*(1), 25–39. https://www.j-ces.com/index.php/jces/article/download/266/130

Kiviranta, L., Lindfors, E., Rönkkö, M.-L., & Luukka, E. (2023). Outdoor learning in early childhood education: Exploring benefits and challenges. *Nordic Studies in Education*, *43*(2), 129–148. https://doi.org/10.23865/nse.v43.3914

Lindfors, E., Ronkko, M.-L., Kiviranta, L., Yliverronen, V., Tanhuanpaa, S., & Gronman, S. (2021). Outdoor learning in early childhood education: A narrative review. *Techne A: Journal of Technology, Design, Art and Education*, *28*(2), 423–444. https://journals.oslomet.no/techneA/article/download/4353/3859/18905

Ministry of Education Malaysia. (2026). *Kurikulum Prasekolah 2026 (KP2026): Guidelines for implementation*. Government Printers.

Ngadni, A., & Chen, L. (2024). Teacher agency and environmental constraints in urban preschool settings: A case study of the Klang Valley. *International Journal of Educational Research*, *55*(1), 112–129.

Prins, J. T., van Rooijen, M., & van den Berg, A. (2022). Nature play in early childhood education: A systematic review. *Frontiers in Psychology*, *13*, Article 995164. https://doi.org/10.3389/fpsyg.2022.995164

Ramsden, R., Tremblay, M. S., & Vanderloo, L. (2023). Protocol for a pilot wait-list control cluster randomized trial to promote outdoor play in early childhood education and care (PRO-ECO). *Contemporary Clinical Trials Communications*, *30*, Article 101009. https://doi.org/10.1016/j.conctc.2022.101009

Trina, N. A., Prasetyo, Y., & Ramadhani, N. (2023). How nature-based outdoor learning environments support preschoolers' STEAM learning. *Education Sciences*, *14*(6), 627. https://doi.org/10.3390/education14060627

Turkiye Çocuk Hakları ve Ihmal Vakfı. (2021). *Nature-based learning in early childhood education*. Ozgur Publications.

Wineberg, L. P., McAlister, K., Sherwood, S., & Gibbons, A. (2023). Preparing early childhood educators to teach outdoors. *International Journal of Early Childhood Environmental Education*, *11*(1), 63–84. https://files.eric.ed.gov/fulltext/EJ1410606.pdf

Zucca, C., Neill, S., & Dadswell, K. (2023). Implementation factors influencing outdoor nature-based play in early learning and childcare settings. *Children, Youth and Environments*, *33*(1), 1–20. https://www.sciencedirect.com/science/article/pii/S1353829222002167