

Early childhood education pre-service teachers' perception of outdoor learning

Khairul Firdaus Ne'matullah^{1,2}, Rita Wong Mee Mee^{3,4}, Nabilah Abd Talib¹, Lim Seong Pek³,
Saturia Amiruddin⁵, Md Rosli Ismail⁶

¹Department of Foundation Studies, Centre for Foundation and General Studies, Universiti Selangor, Selangor, Malaysia

²Department of Languages, Faculty of General Studies and Foundation, University College MAIWP International, Selangor, Malaysia

³Department of Language Education, Faculty of Education and Social Sciences, Universiti Selangor, Selangor, Malaysia

⁴Language Centre, National Defense University of Malaysia, Kuala Lumpur, Malaysia

⁵Department of Early Childhood Education, Faculty of Psychology and Education, Universiti Malaysia Sabah, Sabah, Malaysia

⁶Department of Education and Social Sciences, Faculty of Education, Open Universiti Malaysia, Selangor, Malaysia

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ABSTRACT

Outdoor learning encompasses a wide range of educational activities, from local natural play areas to formal school curriculum classes. Despite growing evidence of its benefits, outdoor learning is still underutilized in Malaysia's early childhood education system. Hence, this study aims to investigate pre-service teachers' perceptions of the impact of outdoor learning on children's well-being since future teachers' perception is the most important indicator in predicting their intention to use it in the future. A quantitative approach was used, and the questionnaire was distributed to 63 pre-service teachers studying at Universiti Selangor, Malaysia. Based on the findings, the majority of respondents agree that outdoor learning benefits children's well-being, especially their social and psychosocial well-being. Thus, this study provides insight into the significance of outdoor learning on children's learning experiences and that it should be utilized more frequently in the classroom.

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Corresponding Author:

Rita Wong Mee Mee

Department of Language Education, Faculty of Education and Social Sciences, Universiti Selangor

Timur Tambahan Street, Bestari Jaya, Selangor, 45600, Malaysia

Email: ritawong@unisel.edu.my

1. INTRODUCTION

Children nowadays spend more time indoors with devices than their older counterparts due to present urbanization and the recent pandemic that has plagued the nation [1]. According to Raj *et al.* [2], more than 90% of children under the age of five in Selangor, Malaysia, surpassed the WHO's recommended screen time for their age group. This major problem impacts their social, emotional, and mental well-being. High-screen users were more likely to have poor emotion control, such as trouble maintaining composure, failure to complete tasks, lack of interest, and difficulty establishing friends [3]. Furthermore, adolescents who spend significant amounts of time with screens are more likely to be diagnosed with depression or anxiety and require mental or behavioral health treatment [4] and are vulnerable to childhood psychosocial disorder (CPD), which might jeopardize their mental and emotional well-being [5]. According to the National Health Morbidity Survey in 2015, 12.1% of Malaysian children have mental health disorders [6]. If not addressed, this issue may cause long-term consequences.

Therefore, it is essential for teachers to implement outdoor learning in their teaching and learning to prevent the aforementioned concerns, as outdoor learning is deemed to reduce the sedentary time spent during a normal classroom-based instruction process [7]. Outdoor learning provides a vibrant context for learning,

allowing movement, stimulation, and attention that can enhance learning engagement and increase health and enjoyment in the classroom [8]. Studies show that play-based and game-based learning improves children's high-order thinking skills [9], [10]. Children who are disconnected from nature when they are young will become even more distant as adults; thus, the natural surroundings are essential to them [11]. As children spend time outside, they learn about themselves and the world around them, developing a sense of self in relation to the natural environment [4]. According to Yildirim and Akamca [12], activity-based, integrative, and stimulating learning environments, such as outdoor learning, provide emotional experiences and opportunities for children to work freely.

Despite research backing the benefits of outdoor learning, scholarly discussion of play in the context of teacher education is limited [13]. Thus, this study will investigate pre-service teachers' perceptions and attitudes toward outdoor play on children's well-being. This study is important to be conducted since future professionals, in this context, pre-service teachers' perception of the impact of outdoor learning is the most important indicator in predicting their intention to use outdoor learning in the future. Pre-service teachers' perceptions are critical because they will influence the opportunities for preschool kids in their classrooms. As Hegde and Cassidy [14] pointed out, one's perception may lead to one's action.

2. LITERATURE REVIEW

Play teaches children new methods to cope with their emotions and their surroundings. According to health experts and educators, emotion control, social development, behavioral problems, and obesity are all issues children face when they live away from nature and activity [15]. Thus, the integration of play with outdoor learning plays a vital role in children's well-being development. Without the correct stimuli, children's development is at risk, especially in a fast-changing society where it is harder for children to develop holistically when they are not given the right environment. Dias and Bento [16] supported that play promotes cognitive, physical, social, and emotional well-being as a natural and engaging activity, providing the necessary conditions for children to grow and develop. By incorporating outdoor learning, children are more encouraged to engage in free play that allows them to harvest necessary physiological, social, and cultural experiences while still in the early stages of life [17].

Vujičić *et al.* [18] mentioned that developmental neuroscience pays close attention to a child's interaction with their immediate surroundings, emphasizing how a stimulating environment will affect neural connections in the brain. It has been discovered that the more prosperous, exciting, and opportunity-rich the environment, the higher the development of neural networks. Hence, greater children's emotional development aids improve their learning ability [19]. Rodrigues [20] emphasized the importance of a child's environment in structuring learning and development by Piaget in 1951 and Montessori in 1965. Therefore, outdoor learning is one of the best methods in which children can play and learn simultaneously in an environment that provides a variety of stimuli and opportunities that will allow optimal brain development.

Although there is limited research on outdoor learning in the Malaysian context, in a recent study by Rahim *et al.* [21], teachers positively view nature-related activities as an opportunity to engage in immersive and meaningful everyday educational activities about and in nature. Besides, through outdoor learning, children tend to play with their surroundings, such as natural loose parts such as leaves and sticks that can be used as interactive tools for learning. It is well known that learning interactively effectively encourages independent learning [22], enabling them to think inquisitively and motivating them to learn more. In addition, the outdoors provides rich sensory experiences that could help children's development.

3. RESEARCH METHOD

This study aims to examine the perceptions of early childhood education (ECE) pre-service teachers about the importance of outdoor learning on children's well-being. Accordingly, a quantitative research methodology is implemented to answer the research questions. The participants of this study were undergraduate students from the department of early childhood education at Universiti Selangor, Malaysia. The participants were selected through purposive sampling. All participants voluntarily participated in the study, and the study sample comprised 63 preschool pre-service teachers. A total of 60 (95.2%) respondents are female, and three (4.8%) are male.

The majority (N=46, 73%) of the undergraduates who responded to the survey were between the ages of 18 and 20, 23 (20.6%) were between the ages of 21 and 23, and four (6.3%) were between the ages of 24 and 26. Most respondents (N=57, 90.5%) are Malay. There are two (3.2%) Indian pre-service teachers, no Chinese pre-service teachers, and four (6.3%) Bumiputera from Borneo. The majority (N=53, 84.1%) of respondents for this study are currently studying for their diplomas, and ten (15.9%) are presently undertaking their bachelor's degrees. The two prominent preschools where the pre-service teachers work are private or NGO-owned preschools, with 31 (49.2%) of them, followed by preschools under the ministry of education

Malaysia (MOE), with 27 (42.9%) pre-service teachers. Meanwhile, four (6.3%) work at KEMAS preschool and one (1.6%) at a state religious department preschool.

In order to obtain an objective evaluation of the perception of the ECE pre-service teachers on the effect of outdoor learning on children's well-being, a quantitative method using the Likert scale was created based on Landy's preschool teacher outdoor education and attitude survey (PTOEAS) [23]. The scale comprised five categories: strongly disagree, disagree, neutral, agree, and strongly agree. The different elements or areas of interest considered in the scale were the impact of outdoor learning on children's cognitive, emotional and social development and teacher's knowledge. The survey is shared with Universiti Selangor's ECE pre-service teachers who were having their practicum from September 2022 to November 2022 through Google Forms. After the data were collected, the mean and standard deviation (SD) were explored and illustrated based on the IBM SPSS Statistics and Microsoft Excel analysis.

4. RESULTS AND DISCUSSION

Table 1 shows the questions with the highest mean in each category and their percentages. It reveals that 85.7% (N=54) of the respondents agreed that outdoor learning helps pupils develop better-thinking abilities, while 14.3% (N=9) were neutral with the claims. Next, it shows that 85.7% (N=54) of the respondents agreed that outdoor learning encourages imagination and creativity, while 1.6% (N=1) disagreed with the claims. Then, 85.7% (N=54) of the respondents agreed that outdoor learning helps pupils appreciate and respect nature, while 3.2% (N=2) objected to the claims. Besides that, 90.4% (N=57) of the respondents stated that outdoor learning supports pupils' psychosocial development, while 1.6% (N=1) disagreed.

Table 1. Pre-service teachers' perception of the impact of outdoor learning on children's psychosocial

Questions	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. Outdoor learning can help pupils develop better-thinking abilities.	0% N=0	0% N=0	14.3% N=9	50.8% N=32	34.9% N=22
2. Outdoor learning encourages imagination and creativity.	0% N=0	1.6% N=1	12.7% N=8	44.4% N=28	41.3% N=26
3. Outdoor learning helps pupils to appreciate and respect nature.	0% N=0	3.2% N=2	11.1% N=7	34.9% N=22	50.8% N=32
4. Outdoor learning supports pupils' psychosocial development.	0% N=0	1.6% N=1	7.9% N=5	57.1% N=36	33.3% N=21

Table 2 shows the perceived impact of outdoor learning on children's cognitive development. The descriptive statistics for 'Outdoor learning can help pupils develop better problem-solving skills' indicated a mean=4.10 (SD=0.712). The descriptive statistics for 'Pupils learn important academic skills through outdoor learning' revealed a mean=3.90 (SD=0.734). As for 'Outdoor learning can help pupils develop better-thinking abilities', the descriptive statistics indicated a mean=4.21 (SD=0.676). The descriptive statistics for 'Outdoor learning help improve pupils' attention span when learning' revealed a mean=3.78 (SD=0.706). In contrast, the descriptive statistics for 'I often felt that things were going my way' and 'Outdoor learning encourages the pupils to be more intuitive and inquisitive' revealed a mean=4.19 (SD=.737).

Table 2. Pre-service teachers' perception of the impact of outdoor learning on children's cognitive development

Questions	Mean	SD
1. Outdoor learning can help pupils develop better problem-solving skills.	4.10	.712
2. Pupils learn important academic skills through outdoor learning.	3.90	.734
3. Outdoor learning can help pupils develop better-thinking abilities.	4.21	.676
4. Outdoor learning help improve pupils' attention span when learning.	3.78	.706
5. Outdoor learning encourages the pupils to be more intuitive and inquisitive.	4.19	.737

Table 3 shows the perception of ECE pre-service teachers of the impact of outdoor learning on children's emotional development. The descriptive statistics for 'Outdoor learning are less stressful for pupils than traditional learning' and 'Outdoor learning helps pupils' self-esteem' revealed a mean=3.83 (SD=0.993) and mean=4.11 (SD=0.805), respectively. In addition, the descriptive statistics for 'Outdoor learning helps control tension and anxiety in pupils' indicated a mean=3.67 (SD=0.762). As for 'Outdoor learning encourages imagination and creativity', the descriptive statistics indicated a mean=4.25 (SD=0.740). The descriptive statistics score for 'Outdoor learning enhances students' grasp of the subject matter' showed a mean=3.90 (SD=0.799).

Table 3. Pre-service teachers' perception of the impact of outdoor learning on children's emotional development

Questions	Mean	SD
1. Outdoor learning is less stressful for pupils than traditional learning.	3.83	.993
2. Outdoor learning helps pupils' self-esteem.	4.11	.805
3. Outdoor learning helps control tension and anxiety in pupils.	3.67	.762
4. Outdoor learning encourages imagination and creativity.	4.25	.740
5. Outdoor learning enhances students' grasp of the subject matter.	3.90	.799

Table 4 shows the descriptive statistics of the perceived impact of outdoor learning on children's social development. The descriptive statistics for 'Outdoor learning encourage pupils to tolerate and respect others' indicates a mean=3.89 (SD=0.785). The item, 'Outdoor learning improves pupils' language and communication skills', showed a mean=4.13 (SD=0.707). While the descriptive statistics mean score for 'Outdoor learning helps pupils to appreciate and respect nature' revealed a mean=4.33 (SD=0.803). For 'Outdoor learning increases pupils' adaptability to new environments', it showed a mean=4.16 (SD=0.677), while the descriptive statistics for 'Outdoor learning activities improve pupils' cooperation when pursuing a common objective' showed a mean=4.19 (SD=0.737).

Table 4. Pre-service teachers' perception of the impact of outdoor learning on children's social development

Questions	Mean	SD
Outdoor learning encourages pupils to tolerate and respect others.	3.89	.785
Outdoor learning improves pupils' language and communication skills.	4.13	.707
Outdoor learning helps pupils to appreciate and respect nature.	4.33	.803
Outdoor learning increases pupils' adaptability to new environments	4.16	.677
Outdoor learning activities improve pupils' cooperation when pursuing a common objective.	4.19	.737

Lastly, Table 5 shows the perceived impact of outdoor learning among teachers and the psychosocial impact of outdoor learning on children. The item 'Outdoor learning helps me identify pupils' strengths and weaknesses' scored a mean=3.90 (SD=0.797). The descriptive statistics for 'Outdoor learning are applicable to all subject matter areas' scored a mean=3.83 (SD=0.959). The item 'Training in outdoor learning broadens a teacher's scope of teaching while playing' indicated a mean=4.13 (SD=0.729). The descriptive statistics for 'Outdoor learning support pupils' psychosocial development' showed a mean=4.22 (SD=0.659). The item, 'Less outdoor learning time affects pupils' psychosocial development', revealed a mean=3.79 (SD=0.883).

Table 5. The overall impact of outdoor learning based on pre-service teachers' perception

Questions	Mean	SD
Outdoor learning helps me identify pupils' strengths and weaknesses.	3.90	.797
Outdoor learning is applicable to all subject matter areas.	3.83	.959
Training in outdoor learning broadens a teacher's scope of teaching while playing.	4.13	.729
Outdoor learning supports pupils' psychosocial development.	4.22	.659
Less outdoor learning time affects pupils' psychosocial development.	3.79	.883

To better comprehend the research, it is essential that we first comprehend the meaning of outdoor learning. According to Cameron and McGue [24], outdoor education is a form of experiential learning that allows children to learn through exposure to the natural world, utilizing all of their senses. According to Best *et al.* [25], the broad concept of "outdoor education" includes genuine learning experiences and learning by doing while using the outdoors as a classroom. By adding outdoor education into children's play, the children will engage in a stimulating and engaging activity with nature, which may benefit their well-being.

According to the World Health Organization (WHO) [26], children, including those with disabilities, should be encouraged to engage in a range of safe and engaging physical activities that support natural development since outdoor activities are essential for reducing the possible detrimental effects of overexposure to sedentary activities. In light of the fact that outdoor learning is intrinsically characterized by purposeful movement, children have expressed emotions of tranquilly, safety, satisfaction, and relaxation while learning outdoors [27], which are all helpful to their mental health. This study explores the perceptions of early childhood education pre-service teachers of the impact of outdoor learning on children's well-being. Hence, it provides insight into some of the current perspectives of ECE pre-service teachers on outdoor play in a Malaysian context. Based on the findings, this study shows that all participants perceive outdoor learning positively, especially towards children's social development.

Making friends, sharing, solving problems, and engaging in groups are vital social skills to acquire throughout childhood. This is consistent with the findings of Streelasky's study [28], which discovered that outdoor space provided a space for children to connect meaningfully, creatively, and constructively with one another and the environment. Their social development develops during outdoor learning as they collaborate and search for knowledge [29]. Omidire *et al.* [30] also discovered that children's social skills improved as they were more eager to collaborate and compete with one another. Positive peer and teacher reinforcement has also improved their overall attitude. Additionally, being in a tranquil space surrounded by nature and devoid of background noise, the outdoor setting provides a rich atmosphere that aids children in developing language and communication abilities [31], as agreed by 81.0% of the respondents.

Another notable finding is that the vast majority of participants (90.4%) believe that outdoor learning promotes children's psychological development. "Psychosocial well-being" encompasses both social and communal well-being as well as emotional or psychological well-being [32]. As it is currently used in literature to refer to a wide variety of attributes, including but not limited to mental, emotional, social, physical, economic, cultural, and spiritual health, the word "psychosocial well-being" has been defined in a number of different ways. According to the findings of this study, ECE pre-service teachers believe that outdoor learning positively benefits children's cognitive, emotional, and social well-being, all of which are elements of psychosocial well-being. As supported by Omidire *et al.* research [30], whereby they mentioned that outdoor play positively impacts children's cognitive, physical, emotional, and social development.

5. CONCLUSION

Overall, this study has shed light on pre-service teachers' perceptions of outdoor learning in relation to children's well-being. In line with the findings, pre-service teachers perceive outdoor learning positively and as a valuable learning experience that can be applied in the classroom. As a result, it demonstrates that they are aware of the benefits to children's cognitive, social, and emotional development. Despite that, outdoor learning in early childhood education is relatively uncommon in Malaysia. Future research should emphasize on pre-service teachers' strategy and implementation of outdoor learning in their classrooms to determine if it aligns with their perception of its benefits.

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BIOGRAPHIES OF AUTHORS



Khairul Firdaus Ne'matullah    was a Deputy Dean at the Centre for Foundation and General Studies, Universiti Selangor (UNISEL) and is currently serving the Faculty of General Studies and Foundation, University College MAIWP International (UCMI). He is the grant leader of the currently funded research project by the Malaysian Ministry of Higher Education under the Fundamental Research Grant Scheme. He specializes in Aural-Oral Skills and Phonetics Development. He can be contacted at: khairulfirdaus@ucmi.edu.my.



Rita Wong Mee Mee    was a TESL Lecturer at the Faculty of Education and Social Sciences, Universiti Selangor (UNISEL) and is currently serving the Language Centre, National Defence University of Malaysia (UPNM). She is the co-leader of the currently funded research project by the Malaysian Ministry of Higher Education under the Fundamental Research Grant Scheme. She received her Doctorate in Education (Ed.D) degree from Universiti Selangor. She specializes in Materials Development, Game-Based Learning and Early Childhood Literacy. She can be contacted at email: ritawong@unisel.edu.my/ritawong@upnm.edu.my.



Nabilah Abd Talib    is a Graduate Research Assistant funded under the Fundamental Research Grant Scheme by the Malaysian Ministry of Higher Education. She is pursuing her Master of Education (by research), fully funded by Universiti Selangor. Her study is on Outdoor Learning and Children's Well-being. She can be contacted at email: nabilahabdtalib99@gmail.com.



Lim Seong Pek    is a TESL Lecturer at the Faculty of Education and Social Sciences, Universiti Selangor (UNISEL). He received his Doctorate in Education (Ed.D) degree from Universiti Selangor. He specializes in Media Literacy, Multimodality and Teacher Education. He can be contacted at email: limsp@unisel.edu.my.



Satoria Amiruddin    is an Early Childhood Education Lecturer at the Faculty of Psychology and Education, Universiti Malaysia Sabah (UMS). She specializes in Early Childhood Literacy and Family Psychology. She can be contacted at: satoria@ums.edu.my.



Md Rosli Ismail    is a Senior Lecturer at the Cluster of Education and Social Sciences, Open University Malaysia (OUM). He is also the program director for the Master of Education program. He earned a Master of Philosophy (MPhil) and Doctor of Philosophy (Ph.D) from the Institute of Malaysian and International Studies (IKMAS), Universiti Kebangsaan Malaysia (UKM). He is also the founder of Bright Atfal and has been an early childhood education practitioner since 2005. He specializes in Educational Sociology and Entrepreneurship Management. He can be contacted at email: mdrosli@oum.edu.my.