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Entrepreneurship Education in Early Childhood through Play-Based Entrepreneurial Learning: Teachers' Perceptions Insights from Sabah

Kelvin Yong^{1,*}, Saturia Amiruddin², Lucas Kee³, Josephine Komin⁵, Jong-il Yi⁴, Juppri Bacotang², Mohd Zakaren Zakaria², Kamsilawati Kamlun¹

- ¹ Centre for the Promotion of Knowledge and Language Learning, Universiti Malaysia Sabah, Sabah, Malaysia
- ² Faculty of Business, Economics and Accountancy, Universiti Malaysia Sabah, Sabah, Malaysia
- 3 Community College Sandakan, Sabah, Malaysia
- International Affairs, Seoul National University of Science and Technology, Seoul, South Korea
- ⁵ Tunku Abdul Rahman University of Management and Technology, Sabah Branch, Malaysia

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ABSTRACT

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Received 23 August 2025 Received in revised form 28 September 2025 Accepted 10 October 2025 Available online 20 October 2025 In Malaysia, the promotion of entrepreneurship is strategically embedded within national policy frameworks, including the Malaysia Education Blueprint (2013-2025), Transformasi Nasional 2050 (TN50), and Dasar Keusahawanan Negara 2030 (DKN 2030). These policies emphasize the development of 21st-century competencies such as creativity, critical thinking, collaboration, and innovation from an early age, thereby positioning early childhood education (ECE) as a critical foundation for developing entrepreneurial mindsets. Prior to integrating entrepreneurship modules, a pilot study and focus group discussion to assess teachers' perceptions of entrepreneurship education in early childhood settings. The absence of systematic training in entrepreneurship for preschool teachers, coupled with a scarcity of pedagogical resources and teaching materials, significantly hinders the effective implementation of entrepreneurship modules. This study aims to examine the level of ECE teachers' perceptions regarding the integration of entrepreneurship education via play-based learning and, second, to identify which types of play-based activities most effectively foster entrepreneurial competencies in young children. A purposive sampling method was employed. A pilot study involving 30 respondents from a focus group discussion was conducted to validate the clarity, reliability, and suitability of the research questionnaire. Findings from the pilot study indicate that teaching entrepreneurship education in preschools is a viable strategy for future-proofing young learners as it aiming for transformation nation 2050 framework. Play-based entrepreneurial learning provides practical experiences that develop critical thinking, enhance entrepreneurial skills, financial literacy, values, confidence in teaching, collaboration, and creativity. These results affirm the potential of play-based learning as an effective medium for introducing foundational entrepreneurial skills, highlighting the need for targeted teacher professional development and resource provision to fully realize this potential within national policy objectives. Establishing collaborative partnerships between universities and preschools is crucial. This partnership facilitates a Knowledge Transfer Program (KTP) that embodies sustainable development goals such as SDG 17 principle of fostering multi-stakeholder partnerships. By merging academic expertise

E-mail address: chen xue@gsgsg.uum.edu.my

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 $[^]st$ Corresponding author.

Keywords:

Entrepreneurship education; entrepreneurship; early childhood education in entrepreneurship with the practical experience of early childhood educators, the KTP co-creates tailored entrepreneurship modules for play-based learning, ensuring that knowledge is not only transferred but also contextually applied in teaching, where it aligned with SDG 4 education.

1. Introduction

There is a notable scarcity of studies specifically focused on entrepreneurship in early childhood education in Asia. Most research on entrepreneurship education tends to concentrate on higher education, with very few studies addressing primary or early childhood levels globally, and even fewer in Asian contexts [1,2]. A systematic review found that among 17 rigorous experimental studies on entrepreneurship education effectiveness, only one was conducted in primary school, and none were explicitly in early childhood settings [1]. Therefore, researchers are motivated to conduct this research to answer questions, solve problems, or explore new ideas in integration between entrepreneurship education and play-based entrepreneurial learning. Malaysia's 12th Plan (2021–2025) commits RM67 billion to education transformation, explicitly prioritizing STEM (Science, Technology, Engineering, Mathematics) and digital literacy including foundational AI across all levels. However, it neglects early entrepreneurial education, even though global evidence links it to greater innovation and social resilience [3]. While the *Malaysia Education Blueprint 2013–2025* nominally integrates entrepreneurship into preschool outcomes where it is citing "creativity, innovation, and entrepreneurial skills" as pillars of holistic development alongside 21st-century competencies [4].

The entrepreneurship education has been widely implemented in secondary and tertiary institutions, its intentional integration into early childhood education remains unexplored particularly in Southeast Asian contexts such as Malaysia. In Sabah a culturally rich, geographically diverse state in East Malaysia early childhood education is undergoing rapid transformation, yet little is known about how educators perceive and enact entrepreneurial learning within their pedagogical practices especially applying entrepreneurial education in play-based learning. In early childhood, this is put into practice through the KSPK curriculum, where play-based learning activities foster skills like initiative, problem-solving, and creativity.

The alignment of early childhood education and entrepreneurial education with the Dasar Keusahawanan Negara (DKN) 2030 is crucial for nurturing a future generation of entrepreneurs. This is achieved by embedding, (1) an entrepreneurial culture within the education system, (2) Provide structured entrepreneurial training, (3), Enhance the quality of entrepreneurship training, (4) Strengthen collaboration between industry and academia, as highlighted by DKN 2030's Strategic Thrust 1 [5]. In early childhood, this is put into practice through the KSPK curriculum, where playbased entrepreneurial learning activities foster skills like initiative, problem-solving, and creativity. A critical aspect of this implementation is enhancing teacher capability, a key focus of DKN 2030. This translates to the upskilling of preschool educators through short courses, workshop, microcredentials, and practical experience gained from industry and community links, ensuring they are well-equipped to instill these entrepreneurship module in young children. Within Malaysia's Kurikulum Standard Prasekolah Kebangsaan (KSPK) [6] and the holistic competencies outlined in the Malaysia Education Blueprint 2013-2025, preschool priorities must be implemented through developmentally appropriate, play-based pedagogy. These frameworks collectively establish the rationale for cultivating foundational dispositions in early childhood including initiative, problemsolving, creativity, collaboration, and ethical conduct which constitute the essential building blocks of an entrepreneurial mindset [5-7].

Recent studies highlight how entrepreneurship can be integrated into early childhood teacher education to empower teachers and students in promoting sustainability through entrepreneurial

practice [8]. Entrepreneurship is framed not just as a business skill, but as a transformative competency that nurtures critical thinking, innovation, and sustainable mindsets. This foundation equips them with essential future skills. Although direct studies remain limited, there is growing recognition of the need to explore entrepreneurship education at earlier educational stages, with increasing calls for further research.

1.2 Problem Statement

There is a significant gap in research on entrepreneurship in early childhood education in Asia. Most available studies and policy initiatives focus on higher education or, at best, secondary education. There is a growing call for research in this area, particularly in countries like Indonesia. A Systematic review show that entrepreneurship education for kindergarten children in Malaysia is emerging but there are gaps in practice and perception [9]. Applying entrepreneurship education into early childhood education teaching faces several significant gaps, ranging from teacher preparedness and curriculum integration to resource availability and broader policy frameworks. Many early childhood education (ECE) teachers have a very limited knowledge or do not understanding of basic of entrepreneurship. They often perceive entrepreneurship as solely related to business and requiring significant financial investment [10]. This narrow view hinders their ability to introduce entrepreneurial concepts to young children, as they assume learners may struggle to comprehend such instruction. Particularly the lack of teacher training in entrepreneurship and the shortage of adequate resources, which hinder the effective promotion of entrepreneurship modules in educational institutions such as preschool education [11]. Entrepreneurship education in early childhood remains an underexplored frontier, often mixed with business skills training or young entrepreneurship programs. To address a critical gap: entrepreneurship education for young children must prioritize developmental appropriateness and entrepreneurial mindset (e.g., resilience, empathy, opportunity recognition), not business operations. We provide entrepreneurship education based on play-based entrepreneurial learning, using an entrepreneurship module.

Despite acknowledged benefits, Irish preschools lack research and a context-specific integration framework [12]. Policymakers should allocate funds for materials, entrepreneurship trainings labs, and collaborative spaces, and provide clear definitions, objectives, curriculum alignment, and targeted training in foundational entrepreneurship to close the policy practice gap.

1.3 Purpose of the Research

The objectives of this study are:

- 1. To investigate the level of teacher perceptions of integrating entrepreneurship education into play-based entrepreneurial learning activities.
- 2. To determine which types of play-based activities teachers use to facilitate entrepreneurship education for children.

1.4 Literature Review

1.4.1 Entrepreneurship education

Entrepreneurship education, globally and in Asia, is defined as pedagogical programs that foster entrepreneurial skills, attitudes, and qualities, with a broad scope beyond just starting businesses. It is recognized as vital for innovation, competitiveness, and economic development [13,14]. Entrepreneurship education is not limited to teaching students how to start and manage a business.

It encompasses a broader concept focused on developing an entrepreneurial mindset mindset involves qualities like autonomy, creativity, innovation, and the ability to take initiative and responsibility. Effective entrepreneurship education relies heavily on active, student-centered, and interactive teaching methods. This includes project-based learning, play-based learning, experiential learning, collaboration, and hands-on activities where students face real-world challenges without predetermined answers. Teachers act as guides, encouraging experimentation and reflection (15). Furthermore, the emphasis on active, student-centered methods such as play-based entrepreneurial learning, experiential learning, and collaboration is not just a recommended approach, it is essential for achieving the stated goals which is to delivery entrepreneurship education to early childhood education through entrepreneurship module. Early childhood educators conceptualize and implement entrepreneurial education primarily through subconscious facilitation and varied interpretations, often integrating entrepreneurial competencies into existing child-centered pedagogies and curriculum models, with play identified as a pivotal too.

1.4.2 Early Childhood Education (ECE)

Early childhood education is focus on birth to 8 years old (includes infants, preschoolers, and early elementary grades) [16]. While entrepreneurship education is well-established in higher education, its integration into early childhood and preschool contexts is still emerging and under-researched. There is a recognized need for more studies on how entrepreneurship concepts can be adapted for young children and what outcomes can be achieved. This initiative aims to introduce an entrepreneurship module that incorporates entrepreneurship education into play-based entrepreneurship learning in preschool at Sabah.

1.4.3 Play-Based Entrepreneurial Learning (PBEL)

Play-based learning is an educational approach where children (or learners) explore, experiment, and make sense of the world through playful, often self-directed activities. It encourages curiosity, creativity, problem-solving, and social skills, with all activities being inherently fun. In this research, the system play-based entrepreneurial learning can be interpreted into the academic term ludic entrepreneurial pedagogy (LEP). Ludic Entrepreneurial Pedagogy (LEP) is proposed as an integrative educational framework that merges play-based learning with entrepreneurial skill development, drawing on constructivist, experiential, and ludic theories [17]. This refers to an educational framework that integrates entrepreneurial skills (e.g., creativity, problem-solving, financial literacy, explore) into early childhood education through structured play activities. It emphasizes experiential learning, where children explore entrepreneurial concepts (e.g., resource allocation, collaboration) in a low-stakes, playful environment. Recent research highlights that the definition of play-based learning is often limited to a children approach, which can cause teachers to feel unsure about how to put this method into practice [18]. This stage involves the active implementation of play activities designed to foster entrepreneurial mindsets, rather than the development or logistics of the system. Previous research shows serious games boost quick decisions, creativity, and teamwork, and keep students engaged in safe, learn-by-doing environments building an entrepreneurial mindset [19].

However, this study introduces a new pedagogy term which is play-based entrepreneurial learning (*PBEL*) — a novel pedagogical framework that synthesizes play, intrinsic motivation, and experiential risk-taking to foster entrepreneurial competencies in educational settings. Focusing on early childhood learners, this statement clarifies the theory, highlights active pedagogical practice,

and references empirical support for PBEL as an innovative, play-based pathway to develop entrepreneurial competencies.

1.4.4 Theoretical framework

The study underpinned by constructivist Learning Theory (Piaget, Vygotsky). Play-based learning is rooted in constructivist theories, which suggest that children construct knowledge through active interaction with their environment. Vygotsky's notion of the *Zone of Proximal Development* (ZPD) supports the idea that guided play can extend children's learning into more complex domains, such as entrepreneurial thinking (problem-solving, initiative, collaboration). Previous studies also applied this theory [12,20]. In addition, constructivism turns entrepreneurship for young children into playful, meaningful problem-solving growing mindsets and skills they can use anywhere, long before "business" mechanics are appropriate [12]. This is because children build ("construct") understanding through active experiences and social interaction by play-based learning. They key ideas is hands-on exploration, connecting to prior knowledge, learning with others (Vygotsky's ZPD), scaffolding by teachers, and reflection.

2. Methodology

This cross-sectional quantitative study employed a survey instrument adapted and adopted from validated measurements on teacher value [21], confidence in teaching entrepreneurship [15], attitudes toward student capabilities [22], the need for a play-based entrepreneurial learning module [23], and perceived preparedness/training [24]. A 5-point Likert scale was applied all items in this survey questionnaire. Purposive sampling was used to recruit preschool teachers in Sabah who have experience teaching children in preschools. All participants were asking if they had acquired basic entrepreneurship knowledge either through a tertiary-level entrepreneurship course during college/university or through alternative entrepreneurship training. Participants were drawn from Universiti Malaysia Sabah (UMS) and the Sabah branch of Tunku Abdul Rahman University of Management and Technology (TAR UMT). For data collection, we conducted a pilot study using a structured Google Forms questionnaire distributed to early childhood education coordinators at UMS and TAR UMT Sabah. In addition, we organised a focus group discussion (FGD) on Google Meet to gather qualitative insights on integrating an entrepreneurship module into early childhood education. This study serves as a pilot test to explore the theoretical framework and teachers' perceptions regarding the integration of entrepreneurship modules into play-based entrepreneurial learning. However, only 29 participants completed the survey for the focus group discussion, as 1 participant did not respond due to lack of interest.

3. Results

The results showed that demographic profile, level of perception of entrepreneurship education, suggestion play-based entrepreneurial activities.

Table 1Demographic profile

Demographic Profile	Items	Frequency	Percentage %
Gender	Male	1	3.4
	Female	28	96.6
Age	18-24	17	58.6
	25-34	8	27.6
	35–44	4	13.8
Institute	UMS	11	37.9
	TAR UMT	18	62.1
Have basic knowledge in entrepreneurship	Yes	21	72.4
	No	8	27.6

Based on table 1, The demographic profile shows that most participants were female (96.6%) and primarily aged 18–24 years (58.6%). The participants were from two institutes: TAR UMT (62.1%) and UMS (37.9%). Additionally, the majority (72.4%) reported having basic knowledge in entrepreneurship.

Table 2Level of perception of entrepreneurship education

Item	Mean	Total means
Value for Teachers		
A1	4.10	4.15
A2	4.07	
A3	4.28	
Confidence in Teaching Entrepreneurial Concepts		
B1	3.69	3.75
B2	3.76	
B3	3.79	
Attitudes Toward Student Capability		
C1	4.03	4.09
C2	4.30	
C3	3.87	
C4	4.17	
Perceived Preparedness / Training		
D1	3.40	3.82
D2	3.83	
D3	3.83	
D4	4.20	
Essential need for a play-based entrepreneurial learning module	!	
E1	4.17	4.19
E2	4.14	
E3	4.14	
E4	4.24	
E5	4.21	
E6	4.24	

Sources: authors own questionnaire

This table 2 presents data collected from teachers reveal several important insights regarding early childhood entrepreneurial education. Overall, teachers demonstrated strong positive values toward entrepreneurship, with an average mean of 4.15. Their confidence in teaching entrepreneurial concepts was moderate, reflected by a mean score of 3.75. Teachers also held positive attitudes toward students' capabilities, scoring an overall mean of 4.09. However, perceived preparedness and training were somewhat lower, with an overall mean of 3.82, indicating a need for enhanced support and training. Finally, there was a strong consensus on the essential need for a play-based entrepreneurial learning module, with the highest overall mean of 4.19. These findings highlight both the willingness of teachers to engage in entrepreneurship education and the importance of providing targeted training and resources to improve their readiness and effectiveness. Educators view entrepreneurship as both important and feasible at this stage and support the development of a structured play-based learning module. However, their lower self-reported confidence and preparedness highlight a skills gap, emphasizing the need for targeted workshops and ongoing coaching for early-years teachers, supported by ready-to-use resources (such as lesson plans, activity banks, and assessment checklists) to ensure effective implementation.

Table 3Suggestion play-based entrepreneurial activities

No	Play-based learning activities	Mean
1	Role playing	4.41
2	Little entrepreneur day	4.24
3	Project-based learning Project	4.21
4	Playing monopoly	4.14

Sources: authors own questionnaire

This table 3 presents educators' perceptions of various play-based entrepreneurial activities, rated by overall mean scores with higher scores indicating stronger agreement or preference. Role playing is the most favoured activity, with the highest mean of 4.41, followed by "Little Entrepreneur Day" (4.24) and project-based learning (4.21), both of which are also highly regarded. Playing Monopoly received the lowest, though still moderately high, mean score of 4.14. All activities are viewed positively as effective strategies for fostering entrepreneurial thinking in young children, with role playing emerging as the most preferred method. This suggests that educators value interactive, imaginative, and experiential learning approaches, particularly those that simulate real-life entrepreneurial roles playing and scenarios. The findings support the use of engaging, child-centre play-based activities in early entrepreneurship education, with a clear inclination toward active and creative methods over traditional game-based ones like Monopoly.

4. Conclusion

The objective of this study is to investigate teachers of perceptions regarding the integration of entrepreneurship education into play-based entrepreneurial learning activities; and second, to determine which types of play-based activities teachers use to facilitate entrepreneurship education for children. To address these aims, an entrepreneurship education module will be developed, refined, and pilot-tested through teachers training, with its learning outcomes evaluated through implementation in early childhood play centres. This study addresses a significant gap in the literature, as most existing research on entrepreneurship education focuses on secondary and tertiary education levels, with limited attention given to early childhood or preschool settings [20].

The findings contribute to the growing body of evidence that entrepreneurship education can be meaningfully examined and implemented within preschool education contexts.

Based on the findings, the highest-rated construct reflected a strong consensus among educators regarding the necessity of adopting a play-based approach to teach entrepreneurship to young children. Therefore, educators acknowledge the importance and viability of introducing entrepreneurship education in early childhood and endorse the creation of a play-based learning module. However, they report lower levels of confidence and perceived readiness, underscoring a critical need for targeted professional development and well-structured teaching resources to support effective implementation in early years settings. This is because most of the participant are do not have entrepreneurship background. All four play-based activities are well-received, result indicated that Role playing is the high mean score 4.41, A key finding emphasized the crucial role of 'play' as a powerful tool for entrepreneurial learning, enabling children to develop creativity, problem-solving skills, and independence through exploration and experimentation [12]. The idea that entrepreneurship education in early childhood is valuable, the teachers saw value in the project for both them and their students, indicating it provided them with new teaching methods and helped them achieve important curricular goals through an engaging, hands-on learning experience for the students [21] . By building a secure, caring, and stimulating classroom environment, teachers create a strong foundation for a child's future success. This aligned with our national framework such as policy frameworks, including the Malaysia Education Blueprint (2013–2025), Transformasi Nasional 2050 (TN50), and Dasar Keusahawanan Negara 2030 (DKN 2030). The main objective is to introduce entrepreneurship module via play-based learning to young children and expose them to how business and financial literacy work.

A practical contribution is essential. We will conduct second series workshops and proposed a knowledge transfer program (KTP), led by trainers from Universiti Malaysia Sabah, to prepare early childhood teachers to teach and implement the entrepreneurship module in their play-based learning activities in their school. This study investigates the level of teachers' perceptions of play-based entrepreneurial learning and identifies the preferred level of play (free, guided, or structured) for delivering the module in early childhood setting based on for play-based learning such as role play, little entrepreneurship day, project-based learning, and playing monopoly. Most teachers select role-play activities because they promote children's autonomy and support motor skills, communication, and socio-emotional competencies particularly respect and tolerance. In line with play-based pedagogy, such play and exploration have a significant impact on learning and development in early childhood.

The outcome of this study can also strengthen collaborative partnerships between universities and preschools through a Knowledge Transfer Program (KTP) that advances sustainable development goals (SDG) which target SDG 17 for partnerships. By integrating entrepreneurship expertise with early childhood education expertise from Universiti Malaysia Sabah, the KTP develops customized play-based modules that enable teachers to effectively apply and transfer knowledge in their teaching over a six-month period, aligning with the objectives of SDG 4 on quality education.

This output is also aligned with the *Dasar Keusahawanan Negara* (2030) trust 1, which integrates the entrepreneurial mindset into early childhood education. Secondly, it aims to provide structured entrepreneurial training for teachers who instruct young children in schools. Thirdly, the quality of the entrepreneurial training will be enhanced and improved through a series of three sessions over a 6-month period designed to improve the teaching materials and modules for children. Finally, collaboration between universities and schools in developing entrepreneurship modules integrated into early childhood education.

As conclusion effective programs are tailored to the developmental stage of children, using games, stories, and hands-on activities rather than formal instruction. Entrepreneurship education in early childhood is most effective at nurturing non-cognitive skills, positive character traits, and entrepreneurial values, entrepreneurial intentions are limited at this stage because the focus is on allowing young learners to have fun while learning basic entrepreneurship. Future research for entrepreneurship education in early childhood education focuses on several key areas. These include exploring the integrates education and entrepreneurship to empower early childhood educators to create sustainable and impactful initiatives. Research may investigate into how early childhood education can serve as a foundation for entrepreneurial mindset development through play-based and innovation-driven learning approaches. This study also suggests recruiting more participants to join this program integrating the entrepreneurship module in early childhood education, especially senior teachers who have taught early childhood education for more than 15 years.

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