



2nd place

Oasis Research Institute — Pilote Edition

Title :

**« Developing an Inquiry-Based
Learning Environment to Empower
Child Agency and Support Flourishing:
A Case Study in Early Childhood »**

By

Radwa Ibrahim Najeeb

Abstract

This study investigates the impact of designing extended learning environments, including school, home, and community, on promoting learner agency and human flourishing among kindergarten children.

The study was implemented through an inquiry unit on natural environments, where children participated in forming groups, selecting research topics, gathering resources, and designing models representing their chosen environments. Learning also extended beyond the school through community-based exploratory activities in collaboration with parents. A qualitative approach was used to observe behavioural and educational changes.

The findings showed that giving children both voice and choice, while engaging families and the community, significantly enhanced self-confidence, ownership of learning, and social skills development.

Literature Review

Recent research on education has consistently highlighted the strong relationship between inquiry-based learning environments and the development of learner agency and human flourishing in early childhood education. Scholars in the field have emphasized that when children are given authentic opportunities to ask questions, explore ideas, make decisions, and construct meaning through real-life experiences, they become more engaged, confident, and self-directed learners. These learning experiences not only support academic growth but also contribute to children's social, emotional, and psychological development.

In this context, Murdoch (2015) emphasized that inquiry-based learning creates meaningful opportunities for children to develop curiosity, critical thinking, and independent decision-making skills. Her work demonstrated that children learn

more deeply when they are encouraged to investigate real questions connected to their lives and interests. Murdoch also argued that the teacher's role should shift from being a transmitter of information to becoming a designer of purposeful learning experiences that support exploration, reflection, and student ownership of learning.

Similarly, within the philosophy of Reggio Emilia Approach, Rinaldi (2006) described the learning environment as the "third teacher." She explained that thoughtfully designed educational spaces, enriched with open-ended materials, visual documents, and opportunities for collaboration, help make children's thinking visible. Such environments support children in expressing ideas, negotiating meaning, and developing a stronger sense of belonging and ownership over their learning experiences.

Furthermore, research by Helm and Katz (2016) on project-based learning in the early years found that children who participate in authentic, long-term projects extending beyond the classroom demonstrate stronger leadership, collaboration, communication, and problem-solving skills compared with those engaged in traditional teacher-directed instruction. Their findings suggest that real-world learning experiences encourage deeper engagement and higher levels of motivation.

From a psychological perspective, Seligman (2011) introduced the concept of human flourishing through positive psychology. His framework suggests that feelings of competence, autonomy, purpose, and belonging are essential components of well-being and intrinsic motivation. When children experience these elements in educational settings, they are more likely to develop resilience, confidence, and a positive attitude toward learning.

Compared with previous studies, the current research offers an innovative contribution by extending inquiry-based learning beyond the classroom to include home and community contexts. It also positions parents as active educational partners, creating an integrated model of extended learning. This approach addresses an important gap in the literature by demonstrating how

learner agency can move beyond a theoretical educational concept and become a sustainable life practice during early childhood.

Research Problem

The study explores the difference between a child as a passive receiver who merely follows instructions and a child as an active initiator in inquiry, as well as the impact of the extended learning environment and learning beyond classroom walls on strengthening learner agency. The research problem lies in the phenomenon of “closed school-based inquiry,” where children’s investigations are often limited to the resources available within classroom walls. As a result, learner agency frequently remains a limited theoretical concept rather than an authentic educational practice.

Accordingly, there is a gap between children’s natural desire to explore the real world and the time and space limitations imposed by traditional school settings. This gap weakens learner agency, as children remain dependent on the resources provided by the teacher, such as pictures, books, or internet materials. This study seeks to address the “balance dilemma”—how to provide children with the freedom to engage in authentic field inquiry outside school, in partnership with parents, while maintaining academic guidance and educational purpose. Through a case study of the five natural environments, the study examines the ability of the Extended Learning Environment model to break the boundaries of the classroom, transforming streets, parks, and family interactions into living laboratories that support the goals of the International Baccalaureate.

Research Questions

This research seeks to answer the following questions:

- How does an extended learning environment influence the development of learner agency in early childhood?
- What is the impact of inquiry-based learning on achieving children's psychological and social flourishing?
- How does family involvement contribute to supporting children's independence and ownership of learning?

Sample Design

The study was implemented by involving **six kindergarten classrooms** with a total of **136 children** aged between five and six years old. Each classroom was divided into **five groups**, with each group consisting of **five to six children**. Every child was given the opportunity to choose both the natural environment they preferred to explore and the group they wished to join, ensuring authentic voice and choice throughout the learning process.

As a result, each classroom included five groups representing five different natural environments. This created a total of **thirty groups across the grade level**, distributed among the five environmental themes. Each group developed unique ideas and representations, reflecting children's individual differences, interests, and personal learning preferences through their choices and collaborative work. The case study was conducted over a period of **four weeks** during the second kindergarten level.

Discussions and Research Findings

The study was implemented through four procedural phases designed as follows:

Phase One: Planning (Selection of Ecosystems)

I identified a broad framework (Planet Earth), within which five sub-frameworks (natural environments) were selected for inquiry: (1) the desert environment ; (2) the polar environment ; (3) the mountainous environment ; (4) the aquatic environment ; and (5) the rainforest environment. These environments were selected due to the visual and cognitive contrasts among them, which stimulate questions about adaptation, characteristics, and survival. Preparing primary resources (pictures, natural sounds, different textures, colours, animals, plants, etc.) for each environment served as provocations, which paved the way for the selection stage.

Phase Two: Activating Agency (The Power of Personal Passion)

At this stage, the actual practice of agency began. Instead of explaining the topic directly to children, communication was established with parents, and their role in the inquiry process was defined by giving each child the right to join the group that stimulated their curiosity, choose it, select the environment, vote on it with the group, and then collaborate in collecting sources, resources, and materials in preparation for implementing the task. The impact of agency becomes visible here, as when a child chooses, for example, the aquatic environment based on personal passion, the child develops an internal commitment toward the inquiry, which represents the first step toward ownership of learning.

Phase Three: Community Partnership (Boundary-Crossing Inquiry)

This was the most innovative phase of the study, where learning moved beyond the classroom into the extended learning environment. Parents were informed of the work procedures that would support the enhancement of learner agency.

Field visits: Children visited with their parents in places related to the selected environment, such as visiting a place simulating the polar environment, or a beach for the aqua-c environment, and so on.

The role of parents: Parents were guided to act as facilitators, documenting experiences and asking open-ended questions, while the child led the data collection process through collecting sand samples, taking photographs, recording observations through drawings, and gathering appropriate materials for constructing the selected environment.

Social learning: Children's practice of dialogue outside the direct supervision of the teacher enhanced their independence and social skills.

Phase Four: Modeling and Presentation (Embodying Agency and Flourishing)

The groups returned to the classroom carrying field experiences to begin the phase of knowledge representation:

Building models: The children designed and built models that expressed their understanding of each environment using various materials. This process represents material thinking, where children collaboratively solve design problems.

Celebration of Learning: At this stage, each child stood as an expert, explaining to the teacher, classmates, and parents what had been learned during a parents' gathering and exhibition of the models.

Indicator of flourishing: Flourishing was reflected in the pride of achievement, as the child explained with complete ownership how they contributed to building the environment, and how the field visits influenced their understanding, which enhanced their self-confidence and voice within their school community.

The below results were extracted from the analysis of observation records across 12 sessions, as follows:

The Shift Toward Full Agency: From “Student” to “Young Researcher”

The results of the case study revealed that transferring inquiry from the theoretical space inside the classroom to field practice (external meetings) created a radical transformation in the concept of learner agency. When children moved beyond the role of “receiver” and went out to explore environments (marine, desert, etc.) with their peers and families, what can be described as an identity transformation occurred. The child no longer saw himself or herself as someone completing a school task, but rather as a researcher responsible for bringing facts back to the group.

Specific results from practical implementation

Voice dominance: Observation records showed that 85% of the decisions related to model design (such as selecting recycled materials) were initiated by the children themselves without direct guidance.

Intellectual ownership: During the final presentation, children clearly used first-person expressions such as “We discovered” and “Our group decided,” reflecting the fading of traditional educational authority and the emergence of full agency.

The young researcher: It was observed, for example, that children in the aquatic environment group began correcting concepts for their peers based on their field observations, representing one of the highest levels of cognitive mastery.

Tangible Indicators of Flourishing (Evidence of Flourishing)

The triangulated data (between teacher observations and parent feedback) confirmed that agency was the main driver of psychological and cognitive flourishing. This was observed through three dimensions:

A. Emotional Well-being

Results: Parent questionnaires recorded a noticeable decrease in children's performance anxiety by 70%, along with increased enthusiasm and confidence, especially among children with behavioral challenges. Children who were previously afraid of speaking in front of an audience showed exceptional enthusiasm when presenting their environments, because they were speaking about an experience they had lived, not a memorized text. This enthusiasm represents a practical indicator of emotional flourishing and academic safety.

B. Deep Cognitive Growth

Results: Children exceeded the expected learning outcomes of the Unit of Inquiry (UOI). Instead of merely naming animals that live in certain environments, children moved toward understanding concepts such as sustainability and ecological balance. For instance, one child in the polar group asked, "What will happen to the cotton (representing snow) if the classroom temperature rises?" This question reflects an understanding of causation and global environmental awareness, concepts that go beyond typical developmental expectations for this age group.

C. Social Skills and Role Distribution

Results: External meetings demonstrated spontaneous growth in negotiation skills. Learning stories showed that children practiced shared leadership, where one child led the data collection stage, while another led the artistic design stage of the model. Adult intervention in conflicts significantly decreased, as children developed their own protocols for resolving disagreements, such as "Where should this animal be placed in the model?". This reflects maturity in social intelligence and collaborative teamwork.

Final Discussion

These findings are consistent with the philosophy of the International Baccalaureate (IBO, 2019), which states that agency and flourishing are two sides of the same coin. The intentionality behind designing the extended learning environment provided children with cognitive authority, and this authority generated a strong sense of self-efficacy.

Recommendations

Based on our finding the following is recommended:

1. **Adopting the Boundary-Crossing Inquiry Model**, by breaking the traditional classroom boundaries and considering home and community as natural extensions of the International Baccalaureate curriculum through child-led field inquiry experiences and active parent partnerships.
2. **Training Teachers in Educational Intentionality and Educational Provocations**, by providing teachers with professional development on designing purposeful learning environments, using provocations, and applying strategic scaffolding to support independent inquiry.
3. **Using Visual Documentation as Assessment for Learning**, by replacing traditional assessment tools with qualitative documentation such as photographs, videos, and children's voices, while actively involving children in documenting their own learning journey.

The implementation of these recommendations created a more dynamic and interactive classroom culture. Children demonstrated higher levels of curiosity, participation, enthusiasm, and sustained engagement during inquiry experiences. Learning became more meaningful because it was connected to real-life experiences, personal interests, and authentic exploration beyond classroom walls. These recommendations significantly strengthened learner agency by giving children voice, choice, ownership, and leadership throughout the learning process.

Children became active decision-makers in selecting inquiry topics, choosing materials, documenting learning, and leading collaborative projects. This transformed their role from passive learners into independent investigators.

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Questionnaire Introductory Note

Dear Parent/Guardian of the child: _____ Selim Atef _____

As a learning partner, and as part of our study on “Enhancing Learning Agency and Child Flourishing,” we would like to learn about your perspectives regarding your child’s experience in exploring ecosystems and participating in outdoor group meetings. Your observations as a participant observer are essential in supporting our child’s growth and flourishing.

Section One: Confidence & Agency

1. How would you describe your child’s enthusiasm toward the environment they chose compared to previous topics?

☒ Very high enthusiasm

☐ Good enthusiasm

☐ No difference from previous topics

2. Have you noticed any development in your child’s ability to explain scientific concepts (such as adaptation or biodiversity) with confidence?

☒ Yes, significantly

☐ Yes, slightly

☐ I did not notice any change

(Please mention a situation or a phrase your child said that reflects their confidence):

“ We can not live in the desert, there are no plants and water”

Section Two: Independence & Initiative

3. To what extent was your child the initiator in planning the group meeting outside school or collecting materials?

[Rate from 1 to 5, where 5 indicates full ini-a-ve]

1 — 2 — 3 — **4** — 5

4. What was your child's role during collaborative work with peers outside school?

- ☐ Leader and organizer
- ☒ Active participant
- ☐ Listener and executor

Section Three: Flourishing & Impact

5. Did inquiry questions extend to family meals or side conversations at home?

- ☒ Always
- ☐ Sometimes
- ☐ Rarely

6. What was the most noticeable change you observed in your child's personality during this project?

He has more confidence in himself and aware of the things around him.

Parent/Guardian Name: Sara Eid