

Investigating the Impact of After-School Programs on Children's Inquiry Skills in Japan

Fuyuko Kanefuji*

Abstract: This study examines the relationship between Japanese children's inquiry skills and their participation in various after-school programs. Inquiry skills—encompassing the ability to explore, analyze, and synthesize information—are essential competencies in 21st-century education. However, limited research has explored how different types of after-school programs contribute to their development.

Using data from a large-scale survey conducted by the National Institution for Youth Education (NIYE) in 2021, this study analyzes the associations between four types of after-school programs and children's inquiry skills, while also considering the influence of socioeconomic status (SES). The findings indicate that participation in nature activities, arts and cultural activities, and private tuition outside of cram schools is positively associated with children's inquiry skills, with nature activities showing the strongest correlation.

These results provide valuable insights for policymakers and practitioners designing after-school programs. The study highlights the potential role of after-school activities in fostering children's inquiry skills and addressing disparities related to SES, thereby complementing formal education.

Keywords: After-school programs, program characteristics, children's inquiry skills, program types.

Introduction

After-school programs are widely recognized as an essential component of children's educational experiences. These programs are defined in this study as those that operate outside the formal school curriculum and provide opportunities for children and youth to develop various cognitive and non-cognitive skills. Afterschool programs can take place in both school-based and out-of-school settings, and are provided by both the public and private sectors. The timing of these programs varies, taking place before or after school, on weekends or during long holidays.

While numerous studies have examined the impact of after-school programs on children's development, two significant gaps remain in the existing literature. First, previous research

* Fuyuko Kanefuji
Department of Human Sciences, Bunkyo University, Japan
Corresponding author: kanefuji@bunkyo.ac.jp

has primarily focused on the frequency and duration of participation, overlooking the relationship between program content, instructional methods, and children's abilities. Second, although some studies have investigated the effects of after-school programs on children from low socio-economic backgrounds, the relationship between different program types and non-cognitive abilities remains underexplored. Few have explicitly examined its relationship with non-cognitive skills such as inquiry skills—a key competency emphasized in 21st-century education reforms.

Inquiry skills represent an important non-cognitive ability that has gained increasing attention in the context of 21st-century education reforms. These skills involve the ability to explore, analyze, and synthesize information to solve problems and are considered essential for lifelong learning and adaptation to complex, rapidly changing environments (Griffin, McGaw, & Care, 2012). Inquiry-based learning, which emphasizes active student engagement in questioning, investigation, and problem-solving, is widely recognized as a key pedagogical approach in 21st-century competency-based education (OECD, 2018; MEXT, 2021). In Japan, educational reforms have increasingly incorporated inquiry-based learning as a means of fostering students' critical thinking, problem-solving abilities, and interdisciplinary learning (MEXT, 2021).

Despite the recognized importance of inquiry skills in contemporary education, there has been limited empirical research on how after-school programs contribute to fostering these skills. Furthermore, although international frameworks for 21st-century skills development highlight the significance of inquiry-based learning (Griffin, McGaw, & Care, 2012), there has been no standardized measurement scale for assessing children's inquiry skills in Japan.

To address this gap, the National Institution for Youth Education (NIYE) in Japan developed a new scale for measuring children's inquiry skills as part of a national survey in 2021 (NIYE, 2021). This study employs this newly developed scale to examine the relationship between participation in different types of after-school programs and children's inquiry skills. The NIYE scale was designed in response to curriculum reforms emphasizing inquiry-based learning in Japanese school education and defines inquiry skills as “the qualities and abilities to better discover and solve problems while considering one's way of being and living through interdisciplinary and comprehensive learning” (MEXT, 2021). In other words, inquiry skills encompass not only individual-level knowledge acquisition but also the ability to collaborate with others and apply acquired knowledge and skills to solve local and global challenges (NIYE, 2021).

Beyond assessing children's non-cognitive skills, this study considers the potential of this scale as a tool for evaluating the quality of after-school programs. By investigating how different types of after-school programs contribute to the development of inquiry skills, this study aims to contribute to the ongoing discussion on effective educational strategies and provides evidence-based recommendations for designing more inclusive after-school programs.