IJORER : International Journal of Recent Educational Research
Homepage : https://journal.ia-education.com/index.php/ijorer
Email : ijorer@ia-education.com

p-ISSN : 2721-852X ; e-ISSN : 2721-7965
IJORER, Vol. 5, No. 4, July 2024
Page 959-972

Whole Brain Teaching and Multi-Sensory Environments on Cognitive Science Development: Moderated by Children's Learning Preferences

Choirun Nisak Aulina, Siti Masitoh, Fajar Arianto*
Universitas Negeri Surabaya, Surabaya, Indonesia

DOI: https://doi.org/10.46245/ijorer.v5i4.624

Sections Info

Article history:
Submitted: June 4, 2024
Final Revised: June 22, 2024
Accepted: July 1, 2024
Published: July 31, 2024

Keywords:
Cognitive science;
Development;
Learning preferences;
Multi-sensory environments;
Whole brain teaching.

ABSTRACT

Objective: This study aims to determine the impact of whole-brain learning and a multi-sensory environment on developing cognitive abilities in early childhood. **Method:** This research method uses a quantitative, quasi-experimental approach. The State University of Malang Laboratory Kindergarten's classes B and C served as the population for this study. The sample was determined by purposive sampling, so there were 60 children. We carried out the data collection process in this study using observation and closed interviews. We conducted observations to evaluate children's cognitive science abilities, encompassing information processing, intelligence, reasoning, language development, and memory. We used closed-ended interviews to measure the children's visual, audio, and kinesthetic learning styles. We processed the data using the SPSS 17.0 program, which included a validity test to determine the product moment, a reliability test with alpha Cronbach, a normality test with Kolmogorov-Smirnov, a homogeneity test with the Levene test, and hypothesis testing to test a two-way ANOVA. **Results** show a positive relationship between cognitive science development and learning preferences in children's learning styles, whether visual, audio, or kinesthetic. **Novelty: This** research can improve children's effective recall of information and open opportunities for more inclusive and adaptive learning according to each child's cognitive needs. Therefore, further research in this area has the potential to shape educational practices that are more effective in recognizing the development of cognitive science in children's learning.

INTRODUCTION

Multi-sensory environments are essential in child development, including early childhood education. Multi-sensory environments play an important role in early childhood education programs, such as the holistic approach to learning and development. Sensory integration, through the application of sensory activities and stimuli, has been shown to improve the well-being of toddlers in the everyday preschool classroom (Vorkapić & Osojnak, 2022). Research has also shown that early childhood educators recognize the importance of sensory needs, especially for children with autism spectrum disorders, and incorporate evidence-based sensory-related strategies in their classrooms (Zabeli & Gjelaj, 2020).

Education professionals have utilized multi-sensory environments to tackle dementia-related behaviors, demonstrating positive outcomes in enhancing the classroom environment and performance of students with autism or dyspraxia (Cameron et al., 2020). Common issues with multi-sensory environments in early childhood education programs include a comprehensive understanding of how these environments engage young learners and their potential impact on their development (Ahmad & Khasawneh, 2024; Kucirkova, 2024). Specifically, the challenge lies in the effectiveness of multi-sensory environments in promoting holistic development, Cognitive, social, and emotional skills are included in early childhood education (Oyewole et al., 2024; Zhou,

13. 624-Article 959-972 Choirun Nisak Aulina.docx

ORIGINALITY REPORT

8%	6%	3%	2%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	journal.ia-education.com Internet Source	1%
2	core.ac.uk Internet Source	1%
3	www.researchgate.net Internet Source	1%
4	Groark, Christina J.; McCarthy, Stephanie K.; Kirk, Afton R. . "Early Childhood Development: From Theory to Practice, Second Edition", UAGC, 2023 Publication	1%
5	Submitted to Universitas Negeri Surabaya The State University of Surabaya Student Paper	1%
6	ijcs.stmikindonesia.ac.id Internet Source	<1%
7	Dalton, James H.. "A Therapist Instrument for an Outcome Evaluation System in Child Mental Health Clinics", University of Connecticut, 2024	<1%