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ENHANCING THE SENSORIMOTOR ABILITIES OF CHILDREN WITH SPECIAL NEEDS THROUGH MONTESSORI-BASED SENSORY TEXTURE BOARDS

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Abstract

This study aims to test the effectiveness of Montessori-based sensory texture boards in improving the sensory-motor abilities of children with special needs at Al Wardah Kindergarten, Peterongan District, Jombang Regency. The study used a quasi-experimental design with a one-group pretest-posttest design involving 40 children with special needs aged 4-6 years who were selected through a purposive sampling technique. The intervention was carried out for 8 weeks with a frequency of 2-3 times per week, a total of 10 sessions, using sensory texture boards designed based on Montessori principles. The research instrument was a sensory-motor ability observation sheet that had been validated by experts with high reliability. Data were analyzed using descriptive statistics and the Wilcoxon Signed-Rank Test. The results showed a very significant increase in children's sensory-motor abilities (Z = -5.238; p-value = 0.000). The average increase in ability was 29.15%, with 95% of subjects experiencing improvement. The highest improvement occurred in sensory perception (30.7%), followed by fine motor skills (30.6%), gross motor skills (29.6%), and sensory-motor integration (25.8%). This study concluded that Montessori-based sensory texture boards are effective as a learning medium for improving sensory-motor skills in children with special needs. The Montessori approach, which emphasizes independent exploration and learning through direct sensory experiences, has been shown to be well-suited to the needs of children with special needs.

Keywords: sensory texture board, Montessori, sensory-motor, early childhood.

INTRODUCTION

Children with special needs (ABK) are a group of children with unique characteristics who require special educational approaches and assistive devices to support their optimal development. One crucial aspect of development is sensory-motor skills, which include the ability to receive, process, and respond to sensory stimuli through motor activity. Sensory-motor skills are an important foundation in child development, involving the coordination of the senses and motor functions to carry out various activities of daily living (Ayres, 1979). For children with special needs, sensory-motor development is often a major challenge that requires special attention and appropriate intervention.

The Montessori approach, as an educational method focused on developing children's holistic potential, has demonstrated effectiveness in supporting the development of children with special needs, particularly through the use of sensory-based educational play tools. Maria Montessori emphasized that children learn most effectively