

## THE INFLUENCE OF VOLCANO ERUPTION EXPERIMENTS ON THE COGNITIVE DEVELOPMENT OF CHILDREN IN GROUP B1 IN TK AL-HIKMAH

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### Abstract

This study aims to examine the impact of a volcanic eruption experiment on the cognitive development of early childhood students at TK Al-Hikmah Ketapang Banyuwangi. Using an experimental method with a One-Group Pretest-Posttest design, the sample consisted of 15 children from group B1. The results showed a significant increase in the children's cognitive abilities after the treatment. Before the treatment, most children were in the "Not Yet Developed" and "Starting to Develop" categories. After the treatment, there was a significant increase to the "Developing as Expected" and "Developing Very Well" categories. The Wilcoxon test indicated that this experiment positively influenced the children's cognitive development. Nature-based science learning not only enhances cognitive abilities but also motivation, social skills, and both physical and mental health of children. This method is effective in integrating direct experiences with the natural environment to prepare children for future challenges.

**Keywords:** Experiment, Cognitive, Early Childhood.

### INTRODUCTION

Early age is known as the golden age. This is due to the very rapid brain and physical development of children during this period. Golden age covers the age range from 0 to 6 years, and is the best time to develop various potentials in children, including growing their interest in religious and moral values. Instilling these values will be an important foundation in forming good children's character in the future.

Childhood is a golden period for brain development and children's curiosity. At this time, children have high curiosity and learn to explore the world around them. This curiosity can be a strong motivator for learning to help children develop important skills and knowledge in life. Children who have high curiosity will be motivated to seek information, solve problems, and master new things.

A sense of curiosity can be fostered through fun learning activities. A pleasant learning atmosphere will increase their enthusiasm for learning. In fact, young

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