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The Effect of Experiment-Based Inquiry Method on the Science Ability of Children Aged 5-6 Years at Aisyiyah Bustanul Athfal III Paranga Kindergarten, Gowa Regency: A Quasi-Experimental Study

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Abstract

This study aims to analyze the influence of learning methods *Inquiry* based on experiments on the science abilities of children aged 5-6 years. The low science ability in early childhood is a concern, which is part of the aspect of cognitive development to help children understand cause-and-effect relationships, simple problem solving, and introduction to science concepts in daily life. This study used a pretest-posttest experimental design involving 17 children as research subjects. Data was collected through observation, and analysis was performed using the Wilcoxon Signed Rank Test. The results showed that the experiment-based inquiry method

significantly improved children's science skills, with an increase in the average score from a pretest of 32.47 to a posttest of 59.24. These findings support Jean Piaget's theory of cognitive development which emphasizes the importance of hands-on experience to facilitate learning. This study recommends the application of experiment-based inquiry methods as an innovative approach in early childhood education to improve critical thinking skills, solve problems, understand cause and effect and get to know simple science concepts in daily life.