ABSTRAK

SULISTIA ELVANI: *Pengaruh Penerapan Metode Mathematical Modelling terhadap Kemampuan Problem Solving Anak Usia Dini (Penelitian di Kelompok B RA Al – Misbah Cipadung Kota Bandung).*

Penelitian ini dilatarbelakangi oleh permasalahan yang ditemukan pada saat observasi awal bahwa di Kelompok B RA Al –Misbah Cipadung Kota Bandung perkembangan kognitif anak masih rendah terutama dalam kemampuan *problem solving* anak. Hal ini terbukti anak masih kesulitan memahami instruksi, anak kurang mampu menunjukkan masalah yang dialami, anak kurang percaya diri dalam menjawab pertanyaan dari guru. Dengan permasalahan ini peneliti menggunakan metode *mathematical modelling* untuk mengetahui pengaruhnya terhadap kemampuan *problem solving* anak usia dini.

Tujuan penelitian ini untuk mengetahui: (1) Perkembangan Kemampuan *Problem Solving* anak sebelum menggunakan metode *mathematical modelling* di Kelompok B RA Al – Misbah; (2) Perkembangan kemampuan *problem solving* anak sesudah menggunakan metode *mathematical modelling* di Kelompok B RA Al – Misbah; (3) Pengaruh metode *mathematical modelling* terhadap kemampuan *problem solving* anak usia dini di Kelompok B RA Al – Misbah Cipadung Kota Bandung.

Kemampuan *problem solving* merupakan keterampilan penting yang perlu dikembangkan sejak usia dini sebagai dasar dalam menghadapi berbagai situasi kehidupan. Metode *mathematical modelling* menekankan pada penghubungan konsep matematika dengan fenomena kehidupan sehari – hari, sehingga anak dapat belajar menyelesaikan masalah nyata melalui eksplorasi konkret. Dengan kegiatan ini, anak tidak hanya terbiasa menghitung angka, tetapi juga mampu memahami langkah – langkah berpikir logis, dan mencoba berbagai strategi. Hal ini membantu anak membangun pola pikir sistematis sejak dini yang bermanfaat untuk menghadapi tantangan di masa depan.

Penelitian ini menggunakan metode kuasi eksperimen dengan pendekatan kuantitatif menggunakan *Pre-experimental Design*. Responden dalam penelitian ini yaitu 14 anak. Teknik pengumpulan data dilakukan melalui wawancara, observasi dan dokumentasi. Adapun teknik analisis data menggunakan uji validitas, uji reliabilitas, uji normalitas, uji homogenitas, dan uji hipotesis. Responden dalam penelitian ini yaitu 14 anak.

Hasil analisis data menunjukkan bahwa kemampuan *ptoblem solving* anak usia dini sebelum menggunakan metode *mathematical modelling* memperoleh nilai rata-rata sebesar 62 dengan interpretasi cukup. Setelah melakukan metode *mathematical modelling* nilai rata-rata sebesar 79 dengan interpretasi baik. Terdapat perbedaan yang signifikansi perkembangan kognitif anak sebelum dan sesudah menggunakan metode *mathematical modelling*. Hal tersebut dibuktikan dengan hasil uji hipotesis yang menunjukkan nilai t_{hitung} = 16,79 dan pada t_{tabel} = 2,24. Artinya terbukti bahwa terdapat pengaruh penerapan metode *mathematical modelling* terhadap kemampuan *problem solving* anak usia dini di Kelompok B RA Al – Misbah Cipadung Kota Bandung.

Kata kunci : Penerapan, Metode Mathematical, Problem Solving, Anak Usia Dini

ABSTRACT

SULISTIA ELVANI: *The Effect of Applying the Mathematical Modeling Method on the Problem-Solving Skills of Early Childhood Children (Research in Group B of RA Al-Misbah, Cipadung, Bandung City).*

This research was motivated by the problem discovered during initial observations, which revealed that children in Group B of RA Al-Misbah, Cipadung, Bandung City still had low cognitive development, especially in problem-solving skills. This was evident in the children's difficulty understanding instructions, their inability to articulate their problems, and their lack of confidence in answering teacher questions. To address this issue, the researchers used the mathematical modeling method to determine its effect on the problem-solving skills of early childhood children.

The objectives of this study were to determine: (1) the development of children's problem-solving skills before using the mathematical modeling method in Group B of RA Al-Misbah; (2) the development of children's problem-solving skills after using the mathematical modeling method in Group B of RA Al-Misbah; (3) the effect of the mathematical modeling method on the problem-solving skills of early childhood children in Group B of RA Al-Misbah, Cipadung, Bandung.

Problem-solving skills are important skills that need to be developed from an early age as a foundation for dealing with various life situations. The mathematical modeling method emphasizes connecting mathematical concepts with everyday phenomena, allowing children to learn to solve real-life problems through concrete exploration. Through this activity, children not only become accustomed to counting numbers but also understand the steps of logical thinking and try various strategies. This helps children develop systematic thinking patterns from an early age, which will be useful for facing future challenges.

This research employed a quasi-experimental method with a quantitative approach using a pre-experimental design. The respondents in this study were 14 children. Data collection techniques were conducted through interviews, observation, and documentation. Data analysis techniques used validity tests, reliability tests, normality tests, homogeneity tests, and hypothesis testing. The respondents in this study were 14 children.

The results of the data analysis showed that the problem-solving ability of early childhood children before using the mathematical modeling method achieved an average score of 62, with a fair interpretation. After using the mathematical modeling method, the average score was 79, with a good interpretation. There was a significant difference in children's cognitive development before and after using the mathematical modeling method. This is proven by the results of the hypothesis test which shows a calculated t value of 16.79 and a t table of 2.24. This means that there is an effect of the application of the mathematical modeling method on the problem-solving abilities of early childhood in Group B RA Al-Misbah Cipadung, Bandung City.

***Keyword** : Implementation, Mathematical Methods, Problem Solving, Early chilhood*