JURNAL ILMIAH METADATA, E-ISSN :2723-7737, Vol.7 No.2
Edition May 2025, Published : 30-05-2025, Page: 108-114
DOI: 10.47652/metadata.v7i2.616

# IMPROVING COGNITIVE DEVELOPMENT THROUGH PUZZLE PLAYING ACTIVITIES FOR CHILDREN AT IBUNDA KINDERGARTEN MEDAN

By
**Seila Rizkina**
Universitas Al Washliyah Medan
Email: seilarizkina@gmail.com

## ABSTRACT

This study aims to determine the results of children's cognitive improvement through puzzle play activities. This study is a class action study consisting of two cycles. This study uses an adaptation of Kemmis and Mc Taggart design which consists of four stages for each cycle, namely: planning, implementation of action, observation, and reflection. The subjects were 14 children of Ibunda Medan kindergarten. Data collection techniques are observation, interview, and documentation. The collected Data were analyzed descriptively qualitative and quantitative. The indicator of success of this study is if the percentage of children's cognitive ability reaches 50%. The results showed that an increase in the number of children who were able to compose puzzles by 42.7%, and was able to mention the number of puzzlue 28.4% in Cycle 1 meeting 1 to the ability to compose puzzles 70% and was able to mention the number of puzzles to 50.2% at meeting 2, then there was an increase in the meyebutkan the number of puzzlue 51% in the second cycle of meeting 1 into the ability to compose puzzles 77% and able to mention the number of puzzles to 63% at meeting 2. Then the child's cognitive improvement can be done by playing Puzzle activities.

**Keywords:** Cognitive development, puzzle playing, Children

# MENINGKATKAN PERKEMBANGAN KOGNITIF MELALUI AKTIVITAS BERMAIN PUZZLE UNTUK ANAK-ANAK DI TAMAN KANAK-KANAK IBUNDA MEDAN

## ABSTRAK

Penelitian ini bertujuan untuk menentukan hasil peningkatan kognitif anak-anak melalui aktivitas bermain puzzle. Penelitian ini merupakan penelitian tindakan kelas yang terdiri dari dua siklus. Penelitian ini menggunakan adaptasi desain Kemmis dan Mc Taggart yang terdiri dari empat tahap untuk setiap siklus, yaitu: perencanaan, pelaksanaan tindakan, pengamatan, dan refleksi. Subjek penelitian adalah 14 anak dari Taman Kanak-Kanak Ibunda Medan. Teknik pengumpulan data meliputi observasi, wawancara, dan dokumentasi. Data yang dikumpulkan dianalisis secara deskriptif kualitatif dan kuantitatif. Indikator keberhasilan penelitian ini adalah jika persentase kemampuan kognitif anak mencapai 50%. Hasil menunjukkan peningkatan jumlah anak yang mampu menyusun puzzle sebesar 42,7%, dan mampu menyebutkan jumlah

JURNAL ILMIAH METADATA, E-ISSN :2723-7737, Vol.7 No.2
Edition May 2025, Published : 30-05-2025, Page: 108-114
DOI: 10.47652/metadata.v7i2.616

puzzle sebesar 28,4% pada pertemuan 1 siklus 1, menjadi kemampuan menyusun puzzle 70% dan mampu menyebutkan jumlah puzzle sebesar 50,2% pada pertemuan 2, kemudian terjadi peningkatan dalam menyebutkan jumlah puzzle sebesar 51% pada siklus kedua pertemuan 1 menjadi kemampuan menyusun puzzle sebesar 77% dan mampu menyebutkan jumlah puzzle sebesar 63% pada pertemuan 2. Maka, peningkatan kognitif anak dapat dilakukan melalui aktivitas bermain puzzle.
**Kata kunci:** Perkembangan kognitif, bermain puzzle, anak-anak

## INTRODUCTION

It is important for early childhood to get a proper education. Primary education is obtained from the closest environment, namely parents and school. Education will be in harmony with the experience received by children, therefore the cognitive stimulation provided by parents and teachers at school is something that needs to be considered so that children can develop in the future. In addition, parents and teachers must be able to facilitate children in their growth and development, especially at an early age in the form of learning activities that suit the needs and interests of children. Therefore, an environment conducive to the growth and development of children is needed. (Latif et al, 2013) Learning at school requires children to be able to master a variety of teaching materials, one of which is playing puzzles. Puzzle is a construction game through the activity of installing or matching boxes, or images of certain buildings so that eventually form a certain pattern (Rokhmat, 2006). Puzzles are often one of the tools that are often used in schools to hone children's cognitive abilities.

In kindergarten mother puzzle is often used in learning, but often children find it difficult to arrange puzzles, among other things because there are too many puzzle pieces that must be arranged so that children are less able to focus on the pattern that must be made. The child still has difficulties in classifying objects by shape and pairs, as well as in assembling images into Whole shapes. In addition, the selection of images that may be less interested in children so that children are not motivated to assemble puzzles. In addition, researchers assume that teachers more often help children put together puzzles than motivate children to solve puzzles themselves. This is due to the fact that the number of children compared to teachers is not balanced. So that teachers are overwhelmed in dividing time between children.

JURNAL ILMIAH METADATA, E-ISSN :2723-7737, Vol.7 No.2
Edition May 2025, Published : 30-05-2025, Page: 108-114
DOI: 10.47652/metadata.v7i2.616

The results of interviews conducted by researchers, showed that teachers capture puzzle play activities only as a play activity without remembering that the ability of children to play puzzles can help children in developing cognitive, language, physical motor and problem solving. So puzzle game activities are often eliminated because they are considered less interesting. Based on field observations, researchers are interested in conducting research on the cognitive development of children through puzzle play activities in children in kindergarten mother.

## RESEARCH METHODS

The type of research used in this study is Class Action Research. This research was conducted through four stages, namely (1) planning, (2) implementation, (3) observation, and (4) reflection. The design used in this study is using Kemmis and McTaggart spiral model design. The reason researchers use Kemmis and Mc Taggart models is the implementation of actions and observations that are carried out simultaneously and inseparably at one time, so that the data obtained are precise. Furthermore, Kemmis and Mc Taggart models held reflection, so that researchers can perform re-planning which is a revision of the implementation of previous actions.

Data analysis used is qualitative data analysis and quantitative data analysis. Qualitative data analysis is to describe the character of child discipline that is observed when children perform activities to arrange puzzles. Quantitative data analysis was used to compare the results obtained from pre-cycle, first cycle and second cycle. So that a picture of progress will be obtained that shows an increase in the ability to compose puzzles.

## RESULTS AND DISCUSSION

From the results of observations made by researchers on the use of puzzles to improve children's cognitive development in the first cycle through two meetings with the results quite increased. The initial assessment was carried out on March 2, 2025 in the classroom.

This initial assessment was conducted to determine the initial condition of the child's ability to play puzzles. researchers collaborate with teachers in terms of instrument assessment. This initial assessment activity involved all 14 children consisting of 6 boys and 8 girls. Some

JURNAL ILMIAH METADATA, E-ISSN :2723-7737, Vol.7 No.2
Edition May 2025, Published : 30-05-2025, Page: 108-114
DOI: 10.47652/metadata.v7i2.616

things cause low cognitive ability of children in playing puzzles, namely because of the number of puzzle pieces that must be arranged, teachers are less motivated children to solve puzzles themselves.Puzzle play activity is an activity that helps children in sharpening the development of kogitif also physical fine motor skills in children,so it is very useful for everyday life.

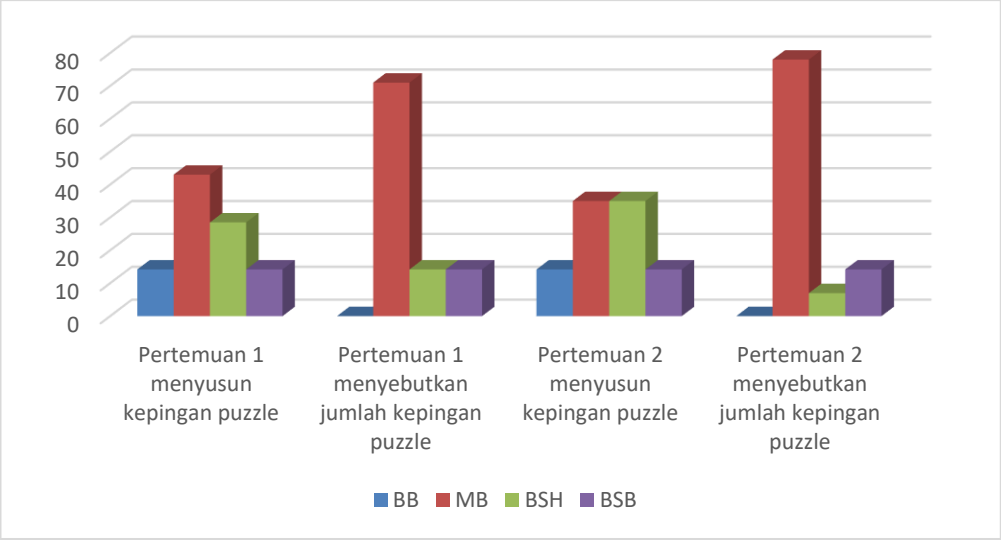
In the first cycle there are four main stages of activity with the following elaboration, namely: 1) planning; 2) Action and observation; and 3) reflection. In the first cycle starting from March 4 and 8, 2025 which consists of 2 meetings each meeting takes place from 08.00 -10.30 WIB. Furthermore, in the second cycle there are three main activities, namely: 1) planning; 2) Action and observation; and 3) reflection. In the first cycle starting from March 11 and 15, 2025 which consists of 2 meetings each meeting takes place from 08.00 -10.30 WIB.

Observation results of children cycle I Meeting 1 are as follows : (1) children arrange puzzle pieces into a whole shape, with the results : (a) BB (undeveloped) there are 2 children (14.2%) (b) MB (began to develop) there are 6 children (43%) (c) BSH (Developed as expected) there are 4 (28.5%) children (d) BSB (developed very well) there are 2 children(14.2%) (2) children mention the number of puzzle pieces arranged, with the results : (a) BB (undeveloped) there are 0 children (0%) (b) MB (began to develop) there were 10 children (71%) (c) BSH (developed as expected) there were 2 children (14.2%) (d) BSB (developed very well) there were 2 children (14.2%).

The results of observation of children in the first cycle of meeting 2 are as follows : (1) children arrange puzzle pieces into Whole shapes, with the results : (a) BB (undeveloped) there are 2 children (14.2%) (b) MB (starting to develop) there are 5 children (35%) (c) BSH (Developed as expected) there are 5 children (35%) (d) BSB (developed very well) there are 2 children (14.2%) (2) children mention the number of puzzle pieces arranged, with the results : (a) BB (undeveloped) there are 0 children (0%) (b) MB (Began to develop) there were 8 children (57%) (c) BSH (developed as expected) there were 4 children (36%) (d) BSB (developed very well) there were 2 children (14.2%).

**Graph 1. Cycle 1**

JURNAL ILMIAH METADATA, E-ISSN :2723-7737, Vol.7 No.2
Edition May 2025, Published : 30-05-2025, Page: 108-114
DOI: 10.47652/metadata.v7i2.616

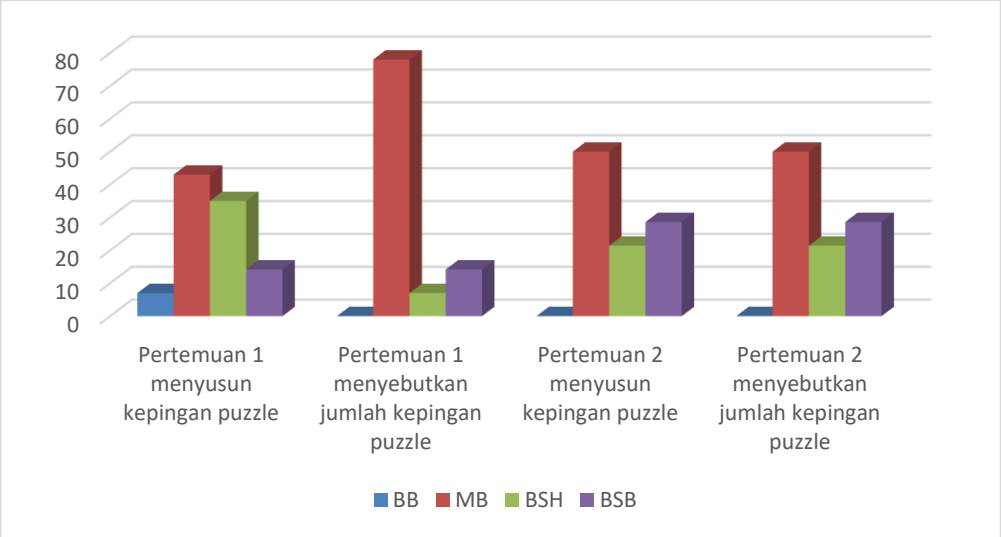



The results of observation of children Cycle II meeting 1 are as follows : (1) children arrange puzzle pieces into a whole shape, with the results : (a) BB (undeveloped) there is 1 child (7%) (b) MB (began to develop) there are 6 children (43%) (c) BSH (Developed as expected) there were 5 children (35%) (d) BSB (developed very well) there were 2 children (14.2,2%). (2) the child mentions the number of puzzle pieces arranged, with the results : (a) BB (undeveloped) there are 0 children (0%) (b) MB (began to develop) there are 6 children (43%) (c) BSH (developed as expected)there are 5 children (35%) (d) BSB (very well developed) there are 3 children (21%).

The results of observation of children Cycle II meeting 2 are as follows : (1) children arrange puzzle pieces into a whole shape, with the results : (a) BB (undeveloped) there are 0 children (0%) (b) MB (began to develop) there are 3 children (21%) (c) BSH (Developed as expected) there were 5 children (35%) (d) BSB (developed very well) there were 6 children (42%). (2) the child mentions the number of puzzle pieces arranged, with the results : (a) BB (undeveloped) there are 0 children (0%) (b) MB (began to develop) there are 6 children (43%) (c) BSH (developed as expected)there are 5 children (35%) (d) BSB (very well developed) there are 4 children (28%).

**Graphic 2. Cycle II**

JURNAL ILMIAH METADATA, E-ISSN :2723-7737, Vol.7 No.2
Edition May 2025, Published : 30-05-2025, Page: 108-114
DOI: 10.47652/metadata.v7i2.616




Based on the comparison of the results of data analysis of the use of puzzles to improve cognitive development in children can be concluded that the second cycle of a better increase in the first cycle..

## CONCLUSION

Based on the results of research that playing puzzles can improve children's cognitive. There was an increase in 2 cycles given to the child. There was an increase in the number of children who were able to compile puzzles by 42.7%, and were able to mention the number of puzzlue 28.4% in Cycle 1 meeting 1 to the ability to compile puzzles 70% and were able to mention the number of puzzles to 50.2% at meeting 2. This shows that the child is well stimulated. Teachers are able to direct children to be able to arrange and count the number of puzzles correctly. Terntunya this is accompanied by the readiness of children in learning the use of puzzles. In the second cycle of improvement is quite noticeable in there is an increase in the number of children who are able to compose puzzles by 49.2%, and able to mention the number of puzzlue 51% in the second cycle of meeting 1 to the ability to compose puzzles 77% and able to mention the number of puzzles to 63% at meeting 2. This shows that the child is well stimulated. By playing puzzles, children will be trained in various things that stimulate the intelligence of the brain, this greatly affects the child's cognitive abilities, besides being able to train eye and hand coordination, because children have to match puzzle pieces and arrange them into one whole picture. Furthermore, it can develop language skills in children, train reason and

JURNAL ILMIAH METADATA, E-ISSN :2723-7737, Vol.7 No.2
Edition May 2025, Published : 30-05-2025, Page: 108-114
DOI: 10.47652/metadata.v7i2.616

logic and train patience in solving problems. Suggestions for further research using innovative and creative game tools so that children are aroused to explore other game tools. In addition, teachers also have to train their ability to teach more varied, the ability to stimulate children according to the needs of children is also preferred.

## BIBLIOGRAPHY

Jamaris, M, 2006, Perkembangan dan Pengembangan Anak Usia Taman Kanak- Kanak, Jakarta: PT Grasindo.

Lathif, Mukhtar, dkk. 2013. Orientasi Baru Pendidikan Anak Usia Dini: Teori dan Aplikasi Edisi Pertama. Jakarta: Kencana Prenadamedia Group.

Masruroh, Umi. 2014. Pengaruh Permainan Puzzle Terhadap Perkembangan Kognitif Anak Usia Dini Di Kelompok A PAUD Tunas Harapan Kelurahan Gebang Kecamatan Patrang Kabupaten Jember. Jember. IKIP PGRI Jember

Trisyana, Sari. 2013. Meningkatkan Kemampuan Kognitif Anak Melalui Media Puzzle Pada Kelompok B DI TK Siswa Budi 1 Surabaya. Universitas Negeri Surabaya

Wiyani, 2014, Psikologi Perkembangn Anak Usia Dini, Yogyakarta : Gava Media

Wiyani, Novan Ardy. 2013. Bina Karakter Anak Usia Dini: Panduan Orang tua & Guru dalam Membentuk Kemandirian &Kedisiplinan Anak Usia Dini. Jakarta: AR-RUZZ MEDIA

Yulianti I, R. 2008, Permainan yang Meningkatkan Kecerdasan Anak, Jakarta: Laskar Askara.

Nst, V. F. H., Wijaya, D. M. ., & Azaman, A. (2025). Pengaruh Modal Intelektual Dan Komitmen Organisasional Terhadap Kinerja Pegawai Dengan Organizational Citizenship Behavior (Ocb) Sebagai Variabel Intervening Pada Pemerintahan Kota Medan. *Jurnal Ilmiah METADATA*, *7*(1), 1-15. https://doi.org/10.47652/metadata.v7i1.553

Nst, V. F. H. . (2025). Pengaruh Motivasi Dan Kompensasi Terhadap Kinerja Karyawan PT. Suryamas Lestari Prima Tanjung Morawa. Jurnal Ilmiah METADATA, 6(3), 73-82. https://doi.org/10.47652/metadata.v6i3.525

Nst, V. F. H., Wijaya, D. M. ., & Azaman, A. (2025). Implementasi Pengelolaan Pengetahuan Untuk Menghadapi Tantangan Digitalisasi Pada Umkm Di Kota Medan. *Jurnal Ilmiah METADATA*, *6*(3), 195-208. https://doi.org/10.47652/metadata.v6i3.549

Rizkina, S. (2025). Upaya Meningkatkan Kedisipilinan Dan Kemandirian Anak Usia Dini Melalui Kegiatan Practical Life Di Ra Ibunda Medan. *Jurnal Ilmiah METADATA*, *6*(3), 283-295. https://doi.org/10.47652/metadata.v6i3.583