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# The Effectiveness of Sensory Circle Time (SenCleTi) Media to Improve Sensory Motor Skills in Early Childhood

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**Abstract: The Effectiveness of Sensory Circle Time (SenCleTi) to Improve Sensory Motor Skills in Early Childhood. Objectives:** This study aims to determine the effectiveness of sensory circle time media (SenCleTi) in improving sensory motor skills of children aged 4-5 years**, Methods:** This study is a quantitative study that uses an equivalent time series design type exp eriment research design by measuring the posttest value of children in the experimental group. The test subjects in this study were group A children aged 4-5 years at Melati 2 Kindergarten, Jambi City, totaling 15 people. Data collection was obtained from observations carried out in a structured manner by determining the instruments to be observed. Observations are assessed using observation guidelines in the form of a checklist arranged on a Likert scale. Data were analyzed using inferential statistical analysis techniques N-Gain score test, **Findings:** The results obtained are sensory circle time media (SenCleTi) is declared effective to improve the sensory motor skills of children aged 4-5 years as evidenced by the results of the N-Gain score test which obtained a value of 0.78 with a percentage of 78% which is included in the high and effective category**, and Conclusion:** Sensory motor skills of 4-5 years old children are proven to increase by using sensory circle time (SenCleTi) media during learning activities. Therefore, this innovative education-based media can be one of the media that teachers can use in training the sensory motor skills of children aged 4-5 years.

**Keywords:** sensory circle time media, sensory motor, early childhood.

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## INTRODUCTION

Children's abilities that are no less important to develop from an early age are sensory motor skills. Sensory and motor are two things that cannot be separated, where sensory is the ability to use the five senses that function in processing information, recognizing, and exploring anything that exists in the growth and development of children. Meanwhile, motor is the ability to control body movements that involve a lot of control from nerves, nerve centers and muscles. This means that if the child wants to use the five senses in his body, the movements made by the child are automatically controlled by the motor.

In line with what was stated by Mualli, et al (2022) that sensory motor is the ability to process and interpret all sensory stimuli received from the body and the surrounding environment and then produce a directed response. This is reinforced by Parham and Mailloux who state that the first years of children before school are a period in child development where sensorimotor integration develops rapidly when children interact with the environment (Zipp & Olson, 2016). It is no

wonder that sensory is used as a means for children to recognize and understand the surrounding environment. Sensory processing is the process of receiving sensations that appear in the immediate environment and then organizing, processing and then interpreting these sensations into the central nervous system to produce appropriate reactions (Benson et al, 2019; Wan Yunus et al, 2015; Watts et al, 2014). In this sensory process, motor skills are needed which act as control of children's body movements in carrying out daily activities.

Julianti, et al (2023) said that there are many benefits that can be obtained by children if their sensory motor skills are optimally stimulated, including helping to build and strengthen neural connections in the child's brain (cognitive development), providing information on the world around children and freeing children to explore, helping children in understanding the world around them. In addition, it can also develop children's gross and fine motor. In addition, it can also develop children's gross and fine motor skills, where children learn to use their muscles better (Hasanah, 2016). Highlighting this, it can be interpreted that providing sensory motor stimulation from an early age is an initial stimulation step that needs to be done because the stages of effective early childhood development are through sensory motor development which has an impact on fulfilling children's needs in environmental exploration.

However, in reality, the number of child development disorders including sensory motor problems in the world is still relatively high, one of which in Indonesia is 13-18% due to the lack of experience gained by children during their growth and development (Haryati et al, 2019). This was also found in the field during initial observations, there are still children's sensory motor abilities that have not been optimally stimulated as seen when children find it difficult to focus on activities and have an impact on the learning process, speech delays and letter recognition and holding stationery. In addition, the impact of delays in sensory motor skills also causes children's responses to be slow, cry often, cannot sit still, have unstable emotions which will later affect the cognitive and behavioral development of children (Bujuri, 2018; Wijaya, 2019). Suboptimal motor development can lead to a decrease in children's creativity in adapting to their environment (Ananditha, 2017). Motor delays can cause children to feel dependent, inferior, jealous of their environment, social rejection and have a sense of shame towards themselves (Maulidha & Larasati, 2017). In order for these problems to be overcome, teachers play an important role when children learn at school. Teachers are required to be able to provide media that can be played directly by children and involve balance skills, coordination between limbs and hand strength. Of course, the media must be varied and can provide its own challenges for children in completing the tasks given by the teacher (Fhatri, 2020; Rosiyanah et al, 2020; Meilanie, 2020).

Providing stimulation is very influential on child development, because stimulation is important in the process of child growth and development (Mahmud, 2019; Maulidha & Larasati, 2017). Children who get proper and directed stimulation develop faster than children who lack stimulation. Providing stimulation will be more effective if it pays attention to the needs of children and is carried out during the golden period of children, namely the first two years of a child's life. Efforts that teachers can make to stimulate sensory motor skills are through play. Play is an activity that children really like, because through play children can experiment with something new. In addition, play is also very helpful in the process of child development, so it can be said that play is inseparable from children, besides experimenting children can also learn through play (Masyhudi et al., 2020; Witasari &

Wiyani, 2020). Many benefits are obtained by children through play such as training the five senses, training coordination movements of limbs, establishing social interactions with other children, and training children's independence.

One of the suitable play activities for sensory motor skills is using sensory circle time media (SenCleTi). Sensory circle time media (SenCleTi) is an innovative education-based media that is used to train sensory motor by using all five senses of children, especially in fine motor. The materials used in SenCleTy media are very easy to find in the surrounding environment and are safe for early childhood use such as rice, flour, sand, nutrijel / jelly, clay, water, stones, etc. This is because SenCleTi media is very easy to use. This is because SenCleTy media is also easy to move, carry and combine. By using these materials, children can feel, explore and interact so that they can hone children's sensory motor skills.

In the learning process, there are three themes of SenCleTy media games that children do, including the sea theme, garden theme and garden theme. For example, in the sea theme, children can mix sand with nutrijel and include rocks and miniature sea animals. Play activities like this, can stimulate children's sensory motor such as the senses of touch, vision, hearing and fine motor. Because children can engage in activities that stimulate children's senses to touch and observe in a fun way (Fajrin & Dahliani, 2021). This is also supported by previous research stating that the two-sided maze educational game tool (MADASI) is declared valid and feasible to use to stimulate children's sensory motor skills by obtaining CVR and CVI scores of 1.00 (Virianingsih et al, 2021). Therefore, SenCleTy media is also expected to help teachers provide appropriate stimulation to children, especially in training sensory motor skills such as hand coordination and strength, recognizing the texture and shape of objects. The purpose of this study is to determine the effectiveness of SenCleTy (sensory circle time) media in improving the sensory motor skills of children aged 4-5 years.

## METHOD

### Participants

The test subjects in this study were group A children aged 4-5 years at the Melati 2 Kindergarten in Jambi City, totaling 15 people. Where, the subject was taken using purposive sampling technique, this was done because it considered the selection of criteria for children who were in the age range of 4-5 years, besides that it was also adjusted to the activities to be carried out. The details are as follows:

**Table 1**. Total research population

| No | Class | Number of Children |
|---|---|---|
| 1. | Class A | 15 |
| 2. | Class B1 | 12 |
| 3. | Class B2 | 15 |
| | Total | 42 |

### Research Design and Procedure

This research uses quantitative research with an equivalent time series design. Time series is a good experimental approach to use in research because it only requires one group for research and this takes place over time (Creswell, 2012). Furthermore, Creswell (2012) explains that the equivalent time series design does not require access (participants) with a large number. This time series is used to test the effectiveness of

sensory circle time media (SenCleTi) to improve the sensory motor skills of children aged 4-5 years. Based on the explanation of the type of equivalent time series design, this study only uses the experimental group to measure children's posttest scores. Researchers provide treatment within a certain period of time then the results of measuring posttest values are compared to see patterns over time. The following is a description of the equivalent series design (Creswell, 2012).

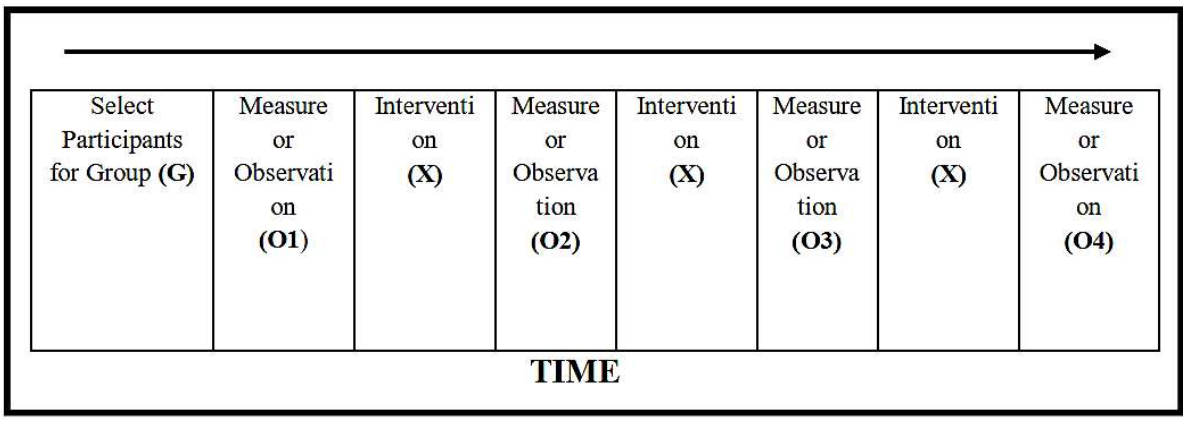


**Figure 1.** Equivalent time series design

**Instruments**

Data collection techniques using observation are carried out to see and determine the effectiveness of sensory circle time media (SenCleTi) to improve the sensory motor skills of children aged 4-5 years. Observation is carried out in a structured manner by determining the instruments to be observed. Observations are assessed using observation guidelines in the form of a checklist arranged on a Likert scale. Siregar (2012) suggests that the Likert scale can be used to measure a person's opinions, attitudes and perceptions about a particular phenomenon/ object. The following observation guidelines are used to measure the sensory motor abilities of children aged 4-5 years.

**Table 2**. Instrument of sensory motor skills of 4-5 year old children

| No | Variable | Sub Variable | Indicator | Assessment Item |
|---|---|---|---|---|
| 1. | Sensory Motor | Pouring | Pouring water, sand, or seeds into a container | - Able to pour water into the container<br>- Able to pour sand into the container<br>- Able to pour rocks into a container |
| 2. | | Pinching | Putting small objects into a bottle | - Able to put miniature animals into a container<br>- Able to put picture cards into the pot |
| 3. | | Coordination | Coordinating eyes and hands to perform | - Able to make artificial soil by mixing cocoa powder and flour |

| | | | |
|---|---|---|---|
| | | complex movements | - Able to make jelly by mixing nutrijel and water |
| 4. | Self-Expression | Expressing oneself by creating art using various media | - Able to feel texture<br>- Able to be creative while playing |
| 5. | Movement Control | Controlling hand movements that use fine muscles | - Able to squeeze artificial soil<br>- Able to grasp miniature animals<br>- Able to squeeze jelly<br>- Able to scrape jelly |

*Permendikbud No. 137 Tahun 2014*

**Data Analysis**

The data analysis technique used is inferential statistical analysis technique. This analysis technique is used with the aim of knowing the effectiveness of sensory circle time media (SenCleTi) to improve the sensory motor skills of children aged 4-5 years. The data obtained regarding children's sensory motor skills in this statistical analysis is assisted by software in the form of Microsoft Excel and SPSS 26.0. After the product effectiveness data is obtained, then the data is analyzed using the N-Gain score test. The N-Gain score test aims to determine the effectiveness of using a particular method or treatment in experimental research. This test is carried out by calculating the difference between the child's score before being given treatment (pre-test) and the child's score after being given treatment (post-test). Through this calculation, it can be seen whether the use or application of sensory circle time media (SenCleti) can be said to be effective or not to improve the sensory motor skills of children aged 4-5 years. The categorization of the acquisition of the N-Gain score can be determined based on the N-Gain value or from the N-Gain value in the form of percent (%). The division of the N-Gain score category refers to the formula described by Meltzer (2002) which can be seen in the table below.

**Table 3**. Division of N-Gain score

| ***N-Gain* Value** | **Category** |
|---|---|
| $g > 0.7$ | High |
| $0.3 \leq g \leq 0.7$ | Medium |
| $g < 0.3$ | Low |

## RESULT AND DISCUSSION

The results in this study were calculated using the N-Gain score test. This test is carried out by calculating the difference between the child's score before being given treatment (pretest) and the child's score after being given treatment (posttest). Data collection in this effectiveness test was carried out using an equivalent time series design 4 times. The results of treatment 1 will obtain pre-test value while the results of the series/treatment 4 will obtain the posttest value. The results of the recapitulation of the comparison of all the averages of the assessment of aspects of children's sensory motor skills are detailed as follows:

**Table 4**. Average results of all aspects of sensory motor skills

| Assessment Aspect | O | | | |
|---|---|---|---|---|
| | O1 | O2 | O3 | O4 |
| Pouring | 97 | 108 | 128 | 161 |
| Pinching | 66 | 76 | 92 | 108 |
| Coordination | 65 | 72 | 93 | 111 |
| Self-Expression | 67 | 75 | 96 | 112 |
| Movement Control | 140 | 145 | 175 | 212 |
| Total | 435 | 476 | 584 | 704 |
| Mean | 29 | 31.73 | 38.93 | 46.93 |

Based on the table above, it can be seen that the average results of all aspects of sensory motor skills from treatment 1 to treatment 4 have increased scores and percentages. The results from treatment 1 to treatment 4 were then analyzed using SPSS 16.0. SPSS 16.0 is used to see the average difference from each aspect of sensory motor ability so that a time series graph of the average value is obtained according to the results of child development. The results of the

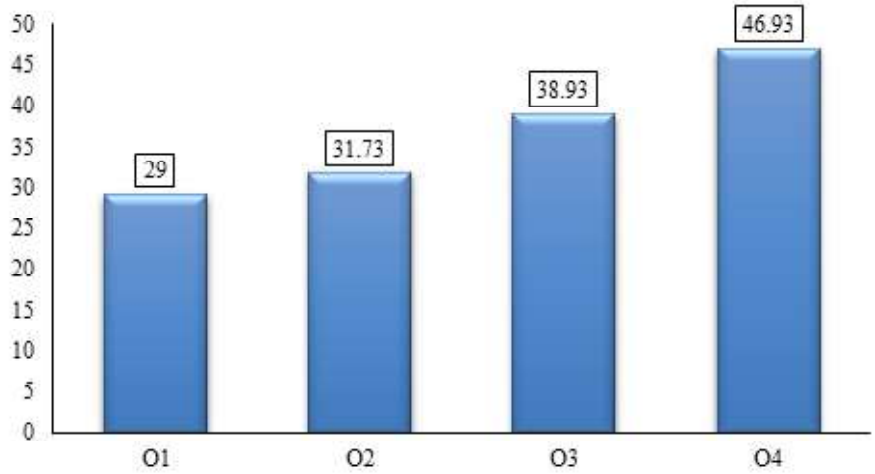


**Figure 2.** Time series of average sensory motor skills

time series analysis of the average sensory motor ability that has been obtained can be seen in the following diagram.

Data from the pretest and posttest results of sensory motor skills of 4-5 year old children were converted into a score of 0-100. This aims to find the N-Gain score to determine the effectiveness of sensory circle time media (SenCleTi). The conversion data can be seen in the table below.

**Table 5**. Pretest and posttest results of sensory motor skills

| Result | Sensory Motor Skills of 4 - 5 Years Old Children | |
|---|---|---|
| | Pretest | Posttest |
| Number of Children | 15 | 15 |
| Minimum Score | 48.07 | 84.61 |
| Maximum Score | 67.30 | 98.07 |
| Mean | 55.76 | 90.25 |
| Total Score | 836.5 | 1335.7 |

Based on the table above, the data obtained from the pretest and posttest conversion results of children's sensory motor skills with a pretest minimum score of 48.07 and a pretest maximum score of 67.30 with an mean of 55.76. Meanwhile, the minimum posttest score was 84.61 and the maximum posttest score was 98.07 with an mean of 90.25. Then, the results of the convention pretest and posttest averages were calculated to find the N-Gain value in the form of categories and percentages. The results of the N-Gain value are detailed in the following table:

**Table 6.** N-Gain test results of sensory motor skills of 4-5 year old children

| Number of Children | Mean | | *N-Gain Score* | *N-Gain Percentage* | Category | Interpretation |
|---|---|---|---|---|---|---|
| | Pretest | Posttest | | | | |
| 15 | 55.76 | 90.25 | 0.78 | 78% | High | Effective |

Based on the details of the table above, it can be obtained that the N-Gain score is 0.78 with a high category and the percentage N-Gain value is 78% with an effective interpretation. Thus, it can be concluded that the use of sensory circle time (SenCleTi) media is effective for improving the sensory motor skills of children aged 4-5 years.

Early childhood is globally recognized as a critical period for shaping all potential and aspects of child development (Alamoodi et al, 2017; Daelmans et al, 2016). In the shaping process, a variety of game media are needed. Sensory circle time (SenCleTi) media is stated to be effectively used to improve the sensory motor skills of children aged 4-5 years because learning activities using three game themes in this media directly involve all five senses, especially fine motor skills so that it provides its own experience for children. This is in accordance with the principles of early childhood learning, namely learning through play (Utami et al, 2024; Witasari & Wiyani, 2020). Play is an activity that is not only of interest to children, there are many benefits that children get through play such as training the five senses, coordination movements of the limbs, establishing social interactions and training children's independence (Virianingsih et al, 2021). Deluma, et al (2023) also explained that learning activities through play not only support children's physical, intellectual and emotional development, but also form a strong initial foundation for involvement in the learning process in the future.

Sensory circle time (SenCleTi) media is suitable for improving early childhood sensory motor skills. Through this media, children get an interesting and interactive experience because children can explore the world around them using their senses of touch, sight, sound and more. Play activities that involve sensory activities can encourage children to use one or more of their senses to stimulate early childhood sensory motor (Coulthard et al, 2018; Edwards, 2017; Watts et al, 2014). Children's exploration in sensory activity itself will be the foundation for children in building themselves to understand their own world so that early childhood needs sensory areas to satisfy the senses and all the senses in exploring sound, color, light, smell and touch (Rosiyanah et al, 2021). A place where children can use their senses of sight, hearing, touch, smell and taste to learn as well as to build relationships in the process of growth and development.

The results of this study are not much different from the results of research by Hastutiningtyas, et al (2023) that the use of sensory paths has proven to be an effective and useful method in stimulating children's motor development. The results of this study are also in accordance with the opinion of Fajrin & Dahliani

(2021) that through sensory fun learning children can engage in activities that stimulate children's senses to touch and observe in a fun way. In addition, the results of research by Rosiyanah, et al (2021) regarding the development of a sensory stimulation guidebook for children aged 4-6 years based on seven senses play activities are suitable for teachers to use in providing sensory stimulation that is integrated with learning activities that are structured and conceptualized, so that children can behave appropriately towards sensations that arise in the surrounding environment.

Seeing the many media used to improve sensory motor skills, it can be said that sensory motor is indeed an important thing to be stimulated. Sensory motor is very important to be stimulated from an early age, because sensory motor is the initial developmental stage that children must go through, so that later children do not experience difficulties in continuing their developmental tasks, children who are active in sensorimotor activities will certainly find it easier to go through further development, so that children become stronger, independent, intelligent and confident in the future (Fhatri, 2020; Mulyani, 2019). There are several benefits obtained from providing stimulation to children's sensory motor and good motor development, namely (1) By doing a lot of exercises that are important for children's development and happiness, making the body lighter, and trained, so that it has a positive impact on children's health, good health makes children stronger and more active to move. (2) Through sufficient exercise and stimulation, children can release and use the energy in the body, thus freeing the body from anxiety, tension, and despair. (3) Children with good motor development can perform daily activities independently, making them feel happier and more confident. Thus it can be said that providing stimulation to sensory motor and motor development can have a positive impact on children (Fitriani, 2018).

## ■ CONCLUSION

The results of data analysis show that the use of sensory circle time (SenCleTi) media is effective for improving the sensory motor skills of children aged 4-5 years as evidenced by the acquisition of the value of the N-Gain score of 0.78 with a high category and the percentage N-Gain value of 78% with an effective interpretation. Sensory circle time (SenCleTi) media is presented as an educational media for teachers to stimulate the sensory motor skills of children aged 4-5 years. Its utilization in educational activities not only improves children's sensory motor skills, but also fosters children's creativity. Hopefully, future researchers can train children's sensory motor skills using other educational media along with digital advances in the modern era.

This research is very helpful for teachers in the learning process, this sensory circle time (SenCleTi) media has advantages that can be played in the classroom and outside the classroom. Besides being able to invite children to play outside the classroom, teachers can also utilize natural materials in the environment to be used as tools and materials in using sensory circle time media (SenCleTi). However, although this research has helped to improve children's sensory motor skills, this research only focuses on children aged 4-5 years.

## ■ REFERENCES

Alamoodi, A. H., Zaidan, B. B., Zaidan, A. A., Samuri, S. M., Ismail, A. R., Zughoul, O., & Chyad, M. A. (2019). A review of data analysis for early-childhood period: taxonomy, motivations, challenges, recommendation, and methodological aspects. *IEEE Access*, 7, 51069-51103.

Ananditha, A. C. (2017). *Faktor-faktor yang berhubungan dengan perkembangan motorik kasar pada anak toddler. Jurnal Keperawatan Muhammadiyah*, *2*(1). http://repository.umsurabaya.ac.id/id/eprint/2970%0A.

Benson, J. D., Breisinger, E., & Roach, M. (2019). Sensory-based intervention in the schools: a survey of occupational therapy practitioners. *Journal of Occupational Therapy, Schools, and Early Intervention, 12*(1), 115–128. https://doi.org/10.1080/19411243.2018.1496872

Bujuri, D. A. (2018). *Analisis perkembangan kognitif anak usia dasar dan implikasinya dalam kegiatan belajar mengajar. Literasi: Jurnal Ilmu Pendidikan, 9*(1), 37-50. http://dx.doi.org/10.21927/literasi.2018.9(1).37-50

Coulthard, H., Williamson, I., Palfreyman, Z., & Lyttle, S. (2018). Evaluation of a pilot sensory play intervention to increase fruit acceptance in preschool children. Appetite, 120, 609– 615. https://doi.org/10.1016/j.appet.2017.10.011

Creswell, J.W. (2012). Educational Research: Planing, conducting, and evaluating quantitative and qualitative research 4th ed. United States of America: Pearson.

Daelmans, B., Darmstadt, G. L., Lombardi, J., Black, M. M., Britto, P. R., Lye, S., & Richter, L. M. (2017). Early childhood development: the foundation of sustainable development. *The Lancet, 389*(10064), 9-11.

Deluma, R. Y., dkk. (2023). *Strategi pembelajaran anak usia dini*. Jawa Timur: Dewa Publishing.

Edwards, J. (2017). The importance of sensory play in children and how to encourage it.

Fajrin, P. I., & Dahliani, D. (2021). Early Childhood Education with Montessori Method in Banjarbaru. *Jurnal Tugas Akhir Mahasiswa Lanting, 10*(2), 44-53.

Fhatri, Z. (2020). *Intervensi latihan sensori motorik dalam pengembangan kinestetik anak autis.* Tarbawy: *Jurnal Pendidikan Islam, 7*(1), 23–36. https://doi.org/10.32923/tarbawy.v7i1.1184.

Fitriani, R. (2018). *Perkembangan fisik motorik anak usia dini. Jurnal Golden Age, 2*(1), 25. https://doi.org/10.29408/goldenage.v2i01.742.

Haryanti, D., Ashom, K., & Aeni, Q. (2019). *Gambaran perilaku orang tua dalam stimulasi pada anak yang mengalami keterlambatan perkembangan usia 0-6 tahun. Jurnal Keperawatan Jiwa, 6*(2), 64.

Hasanah, U. (2016). *Pengembangan kemampuan fisik motorik melalui permainan tradisional bagi anak usia dini. Jurnal pendidikan anak*, 5(1).

Hastutiningtas, W. R., Setyabudi, I., & Maemunah, N. (2023). *Penggunaan sensory path untuk mendukung perkembangan motorik anak usia pra sekolah di "tarbiyatul athfal pesan ibu". Journal of Indonesian Society Empowerment, 1*(2), 63-69. https://doi.org/10.26714/jkj.6.2.2018.64-70

Julianti, A. P., Salsabila, A., Artanti, F., Chairunnisa, F., & Aulia, M. (2023). *Implementasi kegiatan "fun sensory learning" untuk anak usia 1-2 tahun di panti yayasan mansyaul ihsan. Jurnal Pengabdian Kepada Masyarakat Bina Darma, 3*(2), 129-137.

Mahmud, B. (2019). Urgensi stimulasi kemampuan motorik kasar pada anak usia dini. *Didaktika/ : Jurnal Kependidikan*, *12*(1), 76–87. https://doi.org/10.30863/didaktika.v12i1.177

Maulidha, M., & Larasati, D. (2017). *Faktor-faktor yang mempengaruhi keterlambatan perkembangan anak usia 1-3 tahun di desa cangkringsari kecamatan sukodono kabupeten sidoarjo. Journal Of Issues In Midwifery*, *1*(1), 51–70. https://doi.org/10.21776/ub.joim.2017.001.01.6.

Meilanie, R. S. M. (2020). *Survei kemampuan guru dan orangtua dalam stimulasi dini*

*sensori pada anak usia dini. Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini, 5*(1), 958-964. https://doi.org/10.31004/obsesi.v5i1.741.

Meltzer. (2002). The relationship between mathematics preparation and conceptual learning gains in physics: a possible, hidden variable. In diagnostic pretest scores, department of physics and astronomy, Lowa State University, Annes, Lowa 50011 2002, Jurnal Am.J.Physic.

Mualli, C., Rofiki, M., Listrianti, F., Vinori, M. J., & Muhaiminah. (2022). Concentration of Children's Learning in Motor-Sensory Play Management Development Framework. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini. 6*(5), 3807-3816.

Mulyani, N. (2019). *Pengembangan kreativitas anak usia dini melalui bermain gerak dan lagu di tk negeri pembina kabupaten purbalingga. As-Sibyan : Jurnal Pendidikan Anak Usia Dini, 4*(1), 13–24. https://doi.org/10.32678/assibyan.v4i1.1961.

Rosiyanah, R., Yufiarti, Y., & Meilani, S. M. (2020). *Pengembangan media stimulasi sensori anak usia 4-6 tahun berbasis aktivitas bermain tujuh indera. Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini, 5*(1), 941–956. https://doi.org/10.31004/obsesi.v5i1.758.

Siregar, S. (2012). *Statistika deskriptif untuk penelitian.* Jakarta: Rajawali Pers.

Utami, W. S., Harianja, S. I., Rosyadi, A. F., & Rahayu, D. (2023). The Use of SKIDU (sex kids education) game as an effort to introduce sex education in early childhood. *Jurnal Pendidikan Anak Usia Dini Undiksha, 11*(3).

Virianingsih, P. P., Tegeh, I. M., & Ujianti, P. R. (2021). *Alat permainan edukatif maze dua sisi (madasi) untuk menstimulasi keterampilan sensori motorik anak. Jurnal Pendidikan Anak Usia Dini Undiksha, 9*(1), 117-125.

Wan Yunus, F., Liu, K. P. Y., Bissett, M., & Penkala, S. (2015). Sensory-based intervention for children with behavioral problems: a systematic review. *Journal of Autism and Developmental Disorders, 45*(11), 3565–3579. https://doi.org/10.1007/s10803-015-2503-9

Watts, T., Stagnitt, K., & Brown, T. (2014). Relationship between play and sensory processing: A systematic review. American Journal of Occupational Therapy, 68(2), e37–e46. https://doi.org/10.5014/ajot.2014.009787

Wijaya, I. K. W. B. (2018). *Menanamkan konsep catur paramita pada anak usia dini di lingkungan keluarga dan sekolah. Pratama Widya: Jurnal Pendidikan Anak Usia Dini, 3*(2). 41-46. https://doi.org/10.25078/pw.v3i2.737.

Witasari, O., & Wiyani, N. A. (2020). *Permainan tradisional untuk membentuk karakter anak usia dini. JECED : Journal of Early Childhood Education and Development, 2*(1), 52–63. https://doi.org/10.15642/jeced.v2i1.567.

Zipp, G. P., & Olson, V. (2016). Use Of Train-the-trainer sensorimotor group experience (ttsmge) to promote functional motor skill development in an urban us preschool environment. *Contemporary Issues in Education Research (CIER), 3*(1), 83. https://doi.org/10.19030/cier.v3i1.165