



# Game Based Zumba Kids Training Model For Early Childhood (6-8 Years)

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#### Abstract

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**Keywords:** 

Early Childhood, Model, Zumba Kids, This research is motivated by the need to improve motor coordination and physical fitness in young children through a fun and interactive approach. The aim of this research is to develop and test the effectiveness of the game-based Zumba kids model in improving physical fitness and gross motor skills in children aged 6-8 years. The research method used is a quantitative research method with an experimental design. This research involved two groups, namely the experimental group who took part in the gamebased zumba kids program, and the control group who took part in conventional physical activity. Results: Based on independent t-test calculations using SPSS, it is known that the t value is 15.6 and the 2-tailed significance value is 0.000 < 0.05. This shows that there is a significant difference in scores between the experimental group and the control group so it can be said that there is a significant difference between the control and experimental groups in the game-based zumba kids training model for early childhood 6-8. The conclusion of this research is that the zumba kids model is based on the game and is effective in improving physical fitness and gross motor skills in early childhood. This model can be an attractive alternative to physical education programs in schools and can be applied in various child education settings.



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#### INTRODUCTION

childhood education Early (PAUD) is a form of education that focuses on laying the foundation for children's development and growth in various aspects. including physical and gross fitness (fine motor (thinking intelligence coordination), power, creativity, emotional intelligence, spiritual intelligence), and social emotional development, language, and communication. Therefore, PAUD must provide various activities that are able to develop these six aspects. Based on the regulation of the Minister of Education and Culture of the Republic of Indonesia Number 137 of 2014 concerning PAUD Standards, gross motor development indicators for children aged 6-8 years include the ability to: 1) perform coordinated body movements to train flexibility, balance, and agility; 2) coordinate eye and foot movements; 3) play physically with rules; 4) use the right and left hands skillfully; and 5) carry out personal hygiene activities.

Early childhood education is very important because during the Golden Age, children like to imitate what they see so that parents find it easier to teach children to maintain physical fitness. This period is called the golden age because at this age there is very rapid development. In terms of physical, early childhood experiences extraordinary growth starting from brain cells to other organs of the body so that gross motor skills such as walking, running, and jumping are very important in their physical development.

Physical fitness is a condition that is highly desired by everyone, including early childhood. With good physical condition, children can be active dynamically and enthusiastically. In addition, good physical fitness makes children more resistant to attacks by viruses and bacteria which are increasingly worrying today. In short, good physical fitness also means a strong immune system.

Physical fitness is closely related to physical activity, which is often interpreted as body movements carried out by skeletal muscles and produces energy. Physical activity that is carried out in a planned and structured manner to achieve better results is known as exercise. Exercise is an inseparable aspect in efforts to shape and develop human well-being holistically. This is not only related to physical fitness, but also affects mental and spiritual health, and forms a personality that contributes to the overall well-being of society (Syafutra et al., 2023). From the results of research by Fajar Vidya Hartono regarding the fitness level profile data of children aged 4-12 years in the Administrative City of East Jakarta, using random sampling of 121 children who took the MFT (Multi-stage Fitness Test) physical fitness test, it was found that in general the fitness level of children aged 4-15 years in the administrative city of East Jakarta is relatively low. Therefore, improving physical fitness is very important from an early age so that when they are adults, their fitness level will be even better and of course this will affect their learning achievements and play activities and will not get sick easily with good body immunity.

One popular way to improve physical fitness, especially for children, is through the Zumba Kids training model. program offers fun This a and enthusiastic approach to improving physical health. Because basically children really like music and dancing. Using easy-to-follow dance moves and upbeat music, zumba kids not only help improve cardiovascular fitness and physical endurance, but also help develop motor coordination, flexibility, and social skills. In addition, participating in zumba kids can also increase children's selfconfidence because they feel involved in a fun and successful activity. By combining elements of physical fitness with active entertainment, dances like zumba kids provide a holistic and engaging approach to promoting a healthy and active lifestyle among children (Arofi & Dewi, 2022).

The zumba kids exercise model is an approach specifically designed for children with the aim of engaging them in fun physical activities while improving overall physical health. The research theory underlying the zumba kids exercise model includes concepts from developmental child psychology, learning theory, and physical fitness. dances such as zumba kids are not only a tool to improve children's physical fitness, but also a holistic approach that supports children's overall development in a positive way (Babu & Prasad, 2023).

Zumba kids is a variant of the zumba program specifically designed for young children, ranging from 6 to 8 years old. This program offers a combination of fun dance movements and music, designed to trigger children's joy and enthusiasm. In zumba kids, children will be invited to dance to a variety of musical rhythms, ranging from pop, Latin, to ethnic music. The dance movements are easy to learn and follow, making zumba kids a fun activity for children (Rymar et al., 2021). One of the main characteristics of zumba kids is its inclusive approach. The program does not emphasize a specific level of dance skill or expertise. Instead, zumba kids emphasize fun, body movement, and shared experiences. This makes zumba kids something that all children can enjoy, regardless of their skill level or talent in dancing. Zumba kids have been shown to provide significant benefits to the physical fitness of young children. First of all, the helps improve program children's

cardiorespiratory fitness levels. Through continuous dance movements and varying intensities, zumba kids help increase children's heart rate and lung capacity. This is important for heart and respiratory health, as well as improving their physical endurance (Ljubojevic et al., 2023).

In addition, zumba kids also help development of children's in the coordination balance. and Dance movements that involve the whole body require good coordination between the upper and lower limbs, as well as good balance to maintain stability during movement. By participating in zumba kids regularly, children can improve their motor skills and increase sensory awareness. Not only that, zumba kids are also effective in burning calories and maintaining a healthy weight in children. In one zumba kids session lasting around 45-60 minutes, children can burn a significant number of calories through energetic dance movements and varying intensities. This helps prevent excess fat accumulation and reduces the risk of obesity in children, which is a growing health problem among young children.

In addition to physical benefits, zumba kids also provide important psychological benefits for children. Participation in fun and lively activities such as zumba kids can improve children's mood and happiness. Energetic music and a friendly atmosphere help reduce stress and anxiety, as well as increase children's self-confidence and Zumba kids self-esteem. can be implemented in various contexts. including schools, fitness centers, and in the community. In schools, zumba kids can be used as part of the sports curriculum or as an extracurricular activity. By integrating zumba kids into the curriculum, schools can provide opportunities for all children to engage in fun and beneficial physical activities. In addition, zumba kids can also be held as an extracurricular activity that is open to all students, allowing children to develop their interests and skills in dance and fitness.

In fitness centers or dance studios, zumba kids can be offered as a separate class specifically aimed at young children. By providing a separate zumba kids class, fitness centers can attract parents who are looking for fun and beneficial physical activities for their children. In addition, zumba kids classes also provide various types of games that stimulate children's bodies to move actively with fun music accompaniment. Basically, children really like games and music. Based on the background of the problem described above, the focus of this study is to explore the impact of the game-based zumba kids training model for early childhood on improving physical fitness in early childhood, especially those aged 6 to 8 years. The focus of the study may also include an evaluation of the level of participation, motivation, and satisfaction of children with the zumba kids program, as well as factors that influence its effectiveness in improving physical fitness in this age group. With the aim of knowing the game-based Zumba Kids training model for early childhood (6-8 years) and the effectiveness of the game-based Zumba Kids training model for early childhood in improving physical fitness in early childhood (6-8 years).

### METHODS

The aim of this research is to develop and apply a learning model for machete skills in Pencak Silat athletes aged 15-18 years, making it easier to practice the learning process exercises in order to improve Pencak Silat machete skills better. The purpose of this study is to develop and implement a game-based zumba kids exercise model for early childhood (6-8 years), so that it is easier to do the exercise in order to improve better physical fitness. Research on the development of a game-based zumba kids exercise model for early childhood (6-8 years) uses the research and development method (Research and Development), with the development steps of the Borg and Gall model which has 10 (ten) steps or stages of development (Saputra et al., 2023).

### Participants

Participants in this study were 60 early childhood children aged 6-8 years who participated in sports activities at 09 Rawamangun Elementary School East Jakarta and the Lestari Climbing club.

#### **Sampling Procedures**

The sampling procedure used in this research is purposive sampling. Purposive sampling technique is a technique for taking samples of data sources with certain considerations (Sugiyono, 2017). To obtain specific results, researchers limit participants based on criteria, namely from age (6-8 years).

### Materials and Apparatus

Data collection in the study was carried out using a research instrument, namely the Indonesian Student Fitness Test (TKSI KEMDIKBUD) which has been declared valid so that it can then be applied in the field.

### Procedures

The steps in this research are adopted from the Borg and Gall model, namely: (1) Research and Information Collection, (2) Planning, (3) Develop Preliminary Form of Product, (4) Preliminary Field Testing, (5) Main Product Revision, (6) Main Field Testing, (7) Operational Product Revision, (8) Operational Field Testing, (9) Final Product Revision, and (10) Dissemination and Implementation (Aka, 2019).

## Design or Data Analysis

The data analysis technique for measuring effectiveness uses the Independent Samples Test (Sugiyono, 2017). To determine the effectiveness of fitness results and gross motor skills of early childhood (6-8 years) after being given various variations of game-based Zumba Kids models.

## RESULT

Overall, the aim of this needs analysis is to determine the level of need for developing a game-based Zumba Kids training model for early childhood (6-8 years), as well as the obstacles and challenges that will be faced in developing the model.

Researchers conducted a preliminary study using observation and interview instruments to teachers, trainers and early childhood (6-8 years) about the exercise models that have been used or applied during the training process to improve fitness and gross motor skills. Based on the results of the needs analysis, it can be seen, among others: first, the lack of interest in early childhood to participate in sports activities. Second, the lack of parental understanding of the importance of movement and physical activity for child development. Third, the limited space and adequate equipment to carry out zumba kids activities. Fourth, the lack of instructors who are trained in teaching zumba kids to early childhood. Pre-test and post-test data of machete skill learning using the Kolmogorov-Smirnov test at a significance level = 0.05. The results of the normality test using Kolmogorov-Smirnov, obtained a sig value of 0.215 and 0.215 > 0.05 which means that from the control data group, both the pre-test and post-test used met the normality assumption. Based on the calculation of the t-independent test using SPSS, it is known that the t value is 0.158 and the 2-way significance value (twotailed) is 0.2 > 0.05. This shows that there is a significant difference in scores between the experimental group and the control group so that it can be said that the treatment. Zumba kids game-based training model for early childhood (6-8 years) is Normal. Based on the calculation of the t-independent test using SPSS, it is known that the t value is 15.6 and the 2-way significance value (twotailed) is 0.000 < 0.05. This shows that there is a significant difference in scores between the experimental group and the control group, so it can be said that there is a significant difference between the control and experimental groups of the game-based Zumba Kids training model for early childhood (6-8 years). Based on description the above, after measurements were carried out using the physical fitness test instrument (TKSI Kemdikbud), there were differences in the results of variations in the game-based Zumba Kids training model between the pre-test and post-test, that the variations in the model developed were effective and could improve physical fitness and gross motor skills for early childhood (6-8 years)..

## DISCUSSION

The final result of the research on the development of the Zumba Kids game-based exercise model for early childhood (6-8 years) is a product that is considered capable of improving physical fitness. This designed and refined treatment model is based on the needs of early childhood. The basic concept of making this model is the creativity of modifying treatment models both in the form of games and in the form of treatment. The success of the treatment achieved through the Zumba Kids gamebased exercise model for early childhood (6-8 years), means that this treatment model can be said to be quite effective and is able to meet the treatment needs at the level of fitness, motoric and health of children.

The game-based zumba kids training model for early childhood (6-8 years) has gone through a trial stage, then the model was tested on a small group to see if the developed model could be given to a small-scale group. From the results of the small group trial, input was obtained from experts/specialists on the treatment variations so that the given model can be applied well and safely when carried out by the subjects themselves. After conducting a small trial with several changes to the treatment variations of the model, it was then tested on a large-scale group to see if the game-based zumba kids training model for early childhood (6-8 years) could be given to a large-scale group.

Testing of the game-based zumba kids training model for early childhood (6-8 years) was carried out to improve the game-based zumba kids training models for early childhood (6-8 years) years. After the trial, the model is given to be applied to children / early age students in the program to see the effectiveness of the game-based zumba kids training model for early age children (6-8 years), so that after the trial on students, calculations and statistical data processing are carried out to see how effective the game-based zumba kids training models are for early age children (6-8 years). The game-based zumba kids training model for early age children (6-8 years) was tested for its effectiveness on 30 subjects. The subjects took an initial test to see the subject's abilities before being given the gamebased zumba kids training model for early age children (6-8 years).

Physical fitness is the general condition and ability of a person's body to carry out various physical activities excessive without feeling fatigue (Medrano-Ureña et al., 2020). It involves various aspects such as cardiorespiratory, strength, flexibility, muscle and coordination (Kohl et al., 2013). Physical fitness is the body's ability to carry out daily tasks without feeling significantly tired, so that it still has the energy to cope with additional workloads (Farid & Nasution, 2017). The importance of physical fitness lies in its ability to improve overall health, improve quality of life, and reduce the risk of chronic diseases such as heart disease, diabetes, and obesity. Through regular physical treatment and activity, a person can improve their physical fitness, gain sustainable health benefits, and improve their physical and mental well-being (Mahindru et al., 2023).

Physical fitness is part of overall physical fitness, providing a person with the ability to live a productive life and adapt well to the various physical loads given (Malm et al., 2019). Makorohim & Apriani, (2017)emphasize the importance of physical fitness levels in carrying out daily activities. A high level of physical fitness is needed by all groups, both young and old, because it allows them to be active longer than those with low fitness levels. Older children tend to have better basic locomotor skills than younger children. This difference is due to the level of habituation or consistent treatment carried out every day locomotor (Yudanto, 2023). Basic movements that can be developed in childhood include running, jumping, walking, and sliding (Sari, 2019). Research conducted by Louise shows that children who follow a routine treatment program for basic locomotor movements

experience an increase in their motor development (Sutapa et al., 2021). This shows that children who are accustomed to doing basic locomotor movements actively in various activities have better motor development. In addition. movement is an important part of physical-motor development that is complete (Gao et al., 2021). Movement involves rough or hard body movements, and as children grow up and have strong bodies, their movement style becomes more perfect. The impact is the growth and strengthening of larger muscles, causing the emergence of new, more complex skills continuously (Suchomel et al., 2016).

Coordination in early childhood is an important aspect in their motor development. This theory emphasizes that early-age hand-eye coordination treatment has a significant impact on improving fine motor skills and strengthening the relationship between vision and physical movement (Sánchez-González et al., 2022). Research shows that children who have good coordination skills tend to have better learning abilities in school and are better prepared to face complex developmental challenges in the future. Therefore, educators and parents are advised to pay special attention to the development of coordination in early childhood through various activities and games that stimulate eye and hand movements simultaneously, to support optimal growth and development of children (Ilham Kamaruddin et al., 2022).

Early childhood learning is basically a process of playing that integrates learning activities (Pramono & Nur Aisyah, 2018). Playing is not just a repetitive activity that gives children pleasure and satisfaction, but also a socialize, explore means to the surrounding environment, express emotions, be creative, and find fun ways to learn (Garaigordobil et al., 2022). In this context, playing also functions as a vehicle for children to get to know surroundings, themselves and their allowing them to find meaning in everyday life (Trianto, 2013). Early childhood is a group that is experiencing a unique growth and development process, characterized by physical development such as gross and fine motor coordination, as well as behavior that tends to be spontaneous, active, and energetic. They also have great curiosity and enthusiasm for many things, which makes this period a very potential learning period (Toufan et al., 2017). Sports are dominant in their activities, with a focus on the study of movement and technique, which is very important in developing physical abilities and motor skills (Iorga et al., 2023).

The integration of play into the early childhood learning process allows children to achieve developmental goals not only through classroom learning, but also through play experiences (Parker et al., 2022). Play activities allow children to participate in fun activities, while strengthening motor skills and understanding various concepts. Thus, the concept of play becomes an effective strategy in achieving learning goals, especially supporting in child development (Essa & Burnham, 2019).

Play is an activity that can increase a child's enthusiasm and happiness (Bento & Dias, 2017). This is a fun activity and is often done by children as a form of entertainment and pleasure (Sattelmair & Ratey, 2009; Shaikh & Dandekar, 2019). In addition, playing also has an important role in developing children's imagination and providing useful experiences (Sando et al., 2023; Saracho & Spodek, 1995). Games are not only for entertainment, but also as a means of education that teaches children about rules, norms, and values such as

honesty and discipline (Theobald et al., 2015).

Play activities, whether using tools or without, are activities that provide opportunities for children to gain information, have fun and develop their imagination (Curtis, 2020; Miller, 2018). Through play, children can explore the world around them, increasing their experience from the unknown to the known, and from what they have not been able to do to what they can do (Istenič et al., 2023; Waldman-Levi et al., 2022). Thus, games provide significant benefits for children's development in various aspects .

## CONCLUSION

Based on the results of the analysis, it can be concluded that the game-based zumba kids training model can be applied and is feasible to be used effectively with 20 variations of the game model. Thus, early childhood (6-8 years) who have less than maximum physical fitness can apply game-based zumba kids training.

## REFERENCES

- Aka, K. A. (2019). Integration Borg & Gall (1983) and Lee & Owen (2004) models as an alternative model of design-based research of interactive multimedia in elementary school. Journal of Physics: Conference Series, 1318(1). https://doi.org/10.1088/1742-6596/1318/1/012022
- Arofi, Y. N., & Dewi, M. S. (2022). Pengembangan Kepercayaan Diri Anak Melalui Ekstrakurikuler Tari Di Ra Muslimat Nu 15. Jurnal Al-Fitrah: Jurnal Pendidikan Islam Anak Usia Dini, 1(2829).
- Babu, K. V., & Prasad, N. V. (2023). Zumba: Rocking the Fitness World

with Creativity and a Customer-Centric Model. The IUP Journal of Entrepreneurship Development, 20(2).

- Bento, G., & Dias, G. (2017). The importance of outdoor play for young children's healthy development. Porto Biomedical Journal, 2(5). https://doi.org/10.1016/j.pbj.2017.03 .003
- Curtis, A. (2020). Play and the learning environment. In A Curriculum for the Pre-School Child. https://doi.org/10.4324/9780203131 763-14
- Essa, E. L., & Burnham, M. M. (2019). Introduction to Early Childhood Education. In SAGE Publications.
- Farid, M., & Nasution, J. D. H. (2017).
  Hubungan Antara Status Gizi
  Dengan Tingkat Kebugaran Jasmani
  Siswa Kelas V Sdn Kedondong I
  Kecamatan Tulangan Kabupaten
  Sidoarjo. Jurnal Pendidikan
  Olahraga Dan Kesehatan, 05(3).
- Gao, Z., Wen, X., Fu, Y., Lee, J. E., & Zeng, N. (2021). Motor Skill Competence Matters in Promoting Physical Activity and Health. In BioMed Research International (Vol. 2021).

https://doi.org/10.1155/2021/978636 8

- Garaigordobil, M., Berrueco, L., & Celume, M. P. (2022). Developing Children's Creativity and Social-Emotional Competencies through Play: Summary of Twenty Years of Findings of the Evidence-Based Interventions "Game Program." Journal of Intelligence, 10(4). https://doi.org/10.3390/jintelligence 10040077
- Ilham Kamaruddin, Achmad Abdul Azis, Mohammad Syahru Assabana, Arif ismunandar, & Duwi Meilina. (2022). Improving Early Childhood Fine Motor Development Through

Weaving Activities. Journal of Childhood Development, 2(1). https://doi.org/10.25217/jcd.v2i1.34 42

- Iorga, A., Jianu, A., Gheorghiu, M., Creţu,
  B. D., & Eremia, I. A. (2023). Motor
  Coordination and Its Importance in
  Practicing Performance Movement.
  Sustainability (Switzerland), 15(7).
  https://doi.org/10.3390/su15075812
- Istenič, A., Rosanda, V., Volk, M., & Gačnik, M. (2023). Parental Perceptions of Child's Play in the Post-Digital Era: Parents' Dilemma with Digital Formats Informing the Kindergarten Curriculum. Children, 10(1).

https://doi.org/10.3390/children1001 0101

- Kohl, H. W., Cook, H. D., Van Dusen, D.
  P., Kelder, S. H., Kohl, H. W., Ranjit,
  N., & Perry, C. L. (2013). Physical
  Activity and Physical Education:
  Relationship to Growth,
  Development, and Health. In Journal
  of School Health (Vol. 81, Issue 12).
- Ljubojevic, A., Jakovljevic, V., Bijelic, S., Sârbu, I., Tohănean, D. I., Albină, C., & Alexe, D. I. (2023). The Effects of Zumba Fitness® on Respiratory Function and Body Composition Parameters: An Eight-Week Intervention in Healthy Inactive Women. International Journal of Environmental Research and Public Health, 20(1). https://doi.org/10.3390/ijerph20010 314
- Mahindru, A., Patil, P., & Agrawal, V. (2023). Role of Physical Activity on Mental Health and Well-Being: A Review. Cureus. https://doi.org/10.7759/cureus.3347 5
- Makorohim, M. F., & Apriani, L. (2017). Tingkat Kesegaran Jasmani Penghuni Lapas Anak Kota Pekanbaru. JOURNAL SPORT

AREA, 2(2). https://doi.org/10.25299/sportarea.2 017.vol2(2).785

- Malm, C., Jakobsson, J., & Isaksson, A. (2019). Physical activity and sports—real health benefits: A review with insight into the public health of sweden. In Sports (Vol. 7, Issue 5). https://doi.org/10.3390/sports70501 27
- Medrano-Ureña, M. D. R., Ortega-Ruiz, R., & Benítez-Sillero, J. de D. (2020). Physical fitness, exercise self-efficacy, and quality of life in adulthood: A systematic review. In International Journal the of Environmental Research and Public Issue Health (Vol. 17, 17). https://doi.org/10.3390/ijerph17176 343
- Miller, T. (2018). Developing numeracy skills using interactive technology in a play-based learning environment. International Journal of STEM Education, 5(1). https://doi.org/10.1186/s40594-018-0135-2
- Parker, R., Thomsen, B. S., & Berry, A. (2022). Learning Through Play at School A Framework for Policy and Practice. Frontiers in Education, 7. https://doi.org/10.3389/feduc.2022.7

51801

- Pramono, P., & Nur Aisyah, E. (2018). Development Of Early Childhood Physical Activity Game Model. https://doi.org/10.2991/ecpe-18.2018.35
- Rymar, O., Sorokolit, N., Solovey, A., Yaroshyk, M., & Khanikiants, O. (2021). The Effectiveness Of Zumba Kids Implementation Into Physical Education Of Elementary School Pupils. Society. Integration. Education. Proceedings Of the International Scientific Conference,

2.

https://doi.org/10.17770/sie2021vol 2.6187

- Sánchez-González, M. C., Palomo-Carrión, R., De-Hita-Cantalejo, C., Romero-Galisteo, R. P., Gutiérrez-Sánchez, E., & Pinero-Pinto, E. (2022). Visual system and motor development in children: a systematic review. In Acta Ophthalmologica (Vol. 100, Issue 7). https://doi.org/10.1111/aos.15111
- Sando, O. J., Sandseter, E. B. H., & Brussoni, M. (2023). The Role of Play and Objects in Children's Deep-Level Learning in Early Childhood Education. Education Sciences, 13(7).

https://doi.org/10.3390/educsci1307 0701

- Saputra, \*Noviardi, Karwono, K., Muhfahroyin, M., & Sari, A. P. P. (2023). Pengembangan Multimedia Interaktif Pembelajaran Ekosistem Berbasis Android Menggunakan Model Borg Dan Gall. Biolova, 4(1). https://doi.org/10.24127/biolova.v4i 1.3375
- Saracho, O. N., & Spodek, B. (1995). Children's Play and Early Childhood Education: Insights from History and Theory. Journal of Education, 177(3).

https://doi.org/10.1177/0022057495 17700308

Sari, E. F. N. (2019). Locomotor basic movement skill instruments through games for elementary school. Journal of Physics: Conference Series, 1402(7). https://doi.org/10.1088/1742-

6596/1402/7/077081

Sattelmair, J., & Ratey, J. J. (2009). Physically Active Play and Cognition: An Academic Matter? American Journal of Play, 3(4), 366– 374.

Shaikh, A. A., & Dandekar, S. P. (2019).

Perceived benefits and barriers to exercise among physically active and non-active elderly people. Disability, CBR and Inclusive Development, 30(2).

https://doi.org/10.5463/dcid.v30i2.8 39

- Suchomel, T. J., Nimphius, S., & Stone, M. H. (2016). The Importance of Muscular Strength in Athletic Performance. In Sports Medicine (Vol. 46, Issue 10). https://doi.org/10.1007/s40279-016-0486-0
- Sugiyono. (2017). Model Penelitian Kuantitatif, Kualitatif, dan R&D. alfabeta.
- Sutapa, P., Pratama, K. W., Rosly, M. M., Ali, S. K. S., & Karakauki, M. (2021). Improving motor skills in early childhood through goaloriented play activity. Children, 8(11). https://doi.org/10.3390/children8110

https://doi.org/10.3390/children8110 994

Syafutra, W., Marwati, S., & Setiawan, W. (2023). Pengaruh Senam Zumba Terhadap Peningkatan Kebugaran Jasmani Anak-Anak Komplek Majapahit Kota Lubuklinggau. Jurnal Arena Olahraga Silampari, 1(2).

https://doi.org/10.31540/jaos.v1i2.2 330

- Theobald, M., Danby, S., Einarsdóttir, J., Bourne, J., Jones, D., Ross, S., Knaggs, H., & Carter-Jones, C. (2015). Children's perspectives of play and learning for educational practice. Education Sciences, 5(4). https://doi.org/10.3390/educsci5040 345
- Toufan, M., Kazemi, B., & Molazadeh, N. (2017). The significance of the left atrial volume index in prediction of atrial fibrillation recurrence after electrical cardioversion. Journal of Cardiovascular and Thoracic

Research, 9(1). https://doi.org/10.15171/jcvtr.2017. 08

- Trianto. (2013). Desain Pengembangan Pembelajaran Tematik: Bagi Anak Usia Dini TK/RA & Anak Usia Dini Kelas Awal SD/MI. In Kencana Prenada Media Group PSIKOLOGI.
- Waldman-Levi, A., Cope, A., & Olson, L.
  (2022). Understanding Father–Child Joint Play Experience Using a Convergent Mixed-Methods Design. American Journal of Occupational Therapy, 76(5). https://doi.org/10.5014/ajot.2022.04 6573
- Yudanto, Y. (2023). Improved Basic Locomotor Movements of Children through the Multiple Intelligence-Based Perceptual Motor Activity Model. Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini, 7(5). https://doi.org/10.31004/obsesi.v7i5. 2601