

## **Formula 1 Game Model (Run, Jump, Throw) in Locomotor Activity**

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**Abstract:** This study aims to examine the role of the Formula 1 game model (Run, Jump, Throw) in locomotor activity. The method in this study uses a qualitative approach to the type of literature study. This study seeks to explore document studies regarding the study of the Formula 1 game model (Run, Jump, Throw) in general and then relate it to the physical learning process in SDN 67 Palembang. Because nature of physical education in elementary schools is an educational process that aims to build the growth and development of students from the physical, intellectual, movement skill, and attitude aspects that are carried out through physical activity or gestures so that they become healthy, intelligent, skilled human beings, and virtuous character so that it can have a good influence on the quality of his life in the future. It is necessary to pay attention to the implementation of physical education in schools because in supporting the growth and development of students it is also determined by the implementation of physical education in schools. Physical education teachers must be more creative in optimizing the developed facilities and infrastructure. If the physical education teacher is creative, then he is able to create something new, or modify an existing one, but present it in the most attractive way possible, so that students will be more interested and enjoy participating in the physical education learning process.

**Keywords:** Formula 1, Game Model, Locomotor

### **A. Introduction**

Quality Physical education is a part of humans' life, because through physical education humans can learn more things related to affective, cognitive, and psychomotor. Basically, physical education must be instilled from an early age, because physical education has an influence on development child. According to Mustafa, (2021) Physical education, sports and health are educational processes that utilize physical activity to gain individual abilities, both in terms of physical, mental and emotional.

Movement learning is a learning process that aims to improve cognitive abilities, attitudes, and skills (Juliana et al., 2017). The problem that occurs is the change in the culture of movement for elementary school students. The change in movement culture that is meant is a change in the habit of being active to become a habit of being sedentary or a phenomenon that is often experienced by elementary school children,

namely a sedentary lifestyle. This change in lifestyle is caused by advances in communication and transportation technology that are completely automated, making it easier to do various activities in everyday life. It can be exemplified, for example, in everyday life, children go to school using vehicles that do not engage in physical activity, such as bicycles delivered by motorbikes or cars. It's very different from elementary school children in the 90's, where children typed to go to school using vehicles that prioritized physical activity such as walking or bicycles.

Locomotor movement is defined as the movement of changing places, such as walking, running, and jumping. During this process learning, especially basic locomotor motion, has not been modified according to the needs of lower grade elementary school students. For example, students only do normal walking, running, jumping movements without being modified in the form of an interesting game so that this is considered less effective and interesting. Because the characteristics of elementary school students are still playing. It is these characteristics that must be raised to bridge between the desires of teachers and students (Gellahue, 2012).

Physical Education teachers must take advantage of active school days, as an effort to increase both the level of motor skills and physical activity of students to create a foundation for an active and healthy life. One solution is to implement sports games (Imaniar, 2013). Other facts found in schools also show that there are several physical education teachers who carry out the learning process in a conventional way, with an emphasis on sports-oriented material and learning objectives. So indirectly the teacher in this process does not provide learning but rather trains students to master motion tasks in the form of basic sports techniques.

So, to increase children's growth it is necessary to stimulate through gestures related to dexterity through various children's games, to accelerate growth, starting at the age of 6 to 12 years. To maximize the child's growth so that it increases further, it is necessary to do it through effective movements, such as through forms of games that require dexterity to stimulate the child's bones, which are moved by muscles, stimulate joints through the joints, then the bones will grow elongated due to stimulation the. So that it helps the growth of children to maximize their growth (height), both girls and boys (Kristina & Pratama, 2019).

From the problems above, it is important to have a learning model that can foster suitable student locomotor basic movements for elementary school to learn, children in addition to developing student skills as well as to make it easier for students to understand the material while feeling happy and high spirits. Play as an activity related to all the components within the child, through play (when the child play) Children are encouraged to practice skills directed at cognitive development, language development, psychomotor development, and children's physical development (Blegur, 2017).

Athletic learning through Formula 1 game learning (Run, Jump, Throw) is a game that is often contested at the elementary level, such as O2SN. The advantage of this game is that all movement activities are very closely related to all the domain components contained in PJOK, namely the psychomotor domain, the affective domain, and the cognitive domain. Learning using Formula 1 games (Run, Jump, Throw) is believed to be able to increase locomotor movement and physical fitness levels in elementary school students because learning is made more interesting and fun, at the same time all students do movement activities. until you can useful for the development and growth of students. Translation free from Charles' opinion (Inawati, 2012).

Based on field observations of 56 students in class III a and b, there were 27 students or 48.21% who had problems in the learning process. The problem in question is a lack of interest so that students make movements not according to the teacher's instructions and students get bored easily, namely locomotor movements (walking, running and jumping).

**Table 1. Interview Results of Grade III students a and b**

No.	Problems encountered	Student	Percentage
1.	Feeling dislike of locomotor basic motion material	10	17,85%
2.	Feeling bored and late following the learning process	17	30,35%

Source: Interview Results of Class III Students in 2023

During the interview, the researcher asked the PJOK teacher's response at SDN 67 Palembang. In connection with the implementation of learning with game models in locomotor motion activities in grade 3. There is an answer so far in the learning process still using conventional game models, namely for example locomotor running, so students just run without modification. So that students easily get bored and not interested. So, we need a formula 1 game model (Run, Jump, Throw) in locomotor movement activities where a series of movements can refer to enthusiasm, challenge, and fun so that innovative Physical Education learning will be achieved and can be beneficial for the development of students' locomotor movements.

The above problems also agree in the results of the preliminary study through interviews with five sports teachers at elementary schools in Ogan Ilir Regency. learning is not maximized. This is also reinforced by the results of observations made by researchers in the sports learning process that: (1) the teaching materials used by teachers for movement skills are still very minimal; (2) face-to-face learning is less precise when compared to the material to be taught to students so that the teacher teaches the material briefly (Kristi, 2020).

So, the purpose of this article is to present the nature of physical education in elementary schools and the goals of physical education, the formula 1 game model (Run, Jump, Throw), locomotor basic movement abilities.

## **B. Methods**

This article uses a qualitative research approach with a type of literature review, namely examining the results of research and books on existing concepts to be studied in depth with an analysis of a qualitative approach so that new knowledge can be found that can be used in the future (Latif et al, 2013). The research procedures carried out include: (1) the preparatory stage to select a discussion, (2) the implementation stage of searching for sources of literature or theories that are credible and relevant, (3) the stage of disclosing findings from various sources of literature from Creswell's opinion.

The preparatory stage in this study was determining the topic of discussion about the meaning of physical education and the purpose of physical education, the formula 1 game model, and the basic locomotor movements of the program content as a basis for tracing relevant literature sources. Furthermore, at the implementation stage, looking for a variety of sources that are relevant and related to physical education, educational goals, formula 1 game models, and basic locomotor movements. Reference sources were traced from the physical education master book as well as additional articles that have been published in online journals. In this literature review research, it tends to use online articles, the Formula 1 game model in locomotor activity. So, it can be said that the references used in the article will be associated with various regulations related to the Formula 1 game model in locomotor activity. The final step is to outline the conclusions from the results of the qualitative analysis process or tracing statements from experts or researchers from books or scientific articles.

The analysis used in this qualitative research consists of: data reduction, data presentation, and verification which ultimately becomes a conclusion (Sugiyono, 2015). Data reduction is carried out to parse and select qualitative data from the results of document studies. Furthermore, the presentation of the data is a narrative in the form of brief and clear descriptions of the findings of some qualitative data. In the final stage of verification or conclusions, the results will be presented briefly from the findings of a document study on game models in locomotor activity in elementary schools.

## C. Results and Discussion

### **The Nature and Purpose of Physical Education in Elementary Schools**

Physical Education, Sports and Health is one eye lessons carried out at the education level of elementary school, junior high school and senior high school as well as vocational school. SDN 67 Palembang is a formal educational institution that provides these subjects in the form of physical or movement activities carried out on the basis of knowledge. According to Masgumelar & Mustafa (2021) Physical Education, Sports and Health are essentially educational processes that utilize physical activity and health to produce holistic changes in individual quality, both physically, mentally and emotionally.

Physical education treats children as physical, mental and emotional. a unified whole, a total being, rather than being considered as a separate person in terms of physical and mental qualities. Physical, Sports and Health Education are media to encourage physical growth, psychological development, motor skills, knowledge and reasoning, appreciation of values (attitude-mental-emotional-sportsmanship-social-spiritual), as well as habituation of a healthy lifestyle which aims to stimulate growth and development of balanced physical and psychological qualities. Furthermore, according to Mulyono (2019) states that physical education is a process of learning to move, and learning through movement.

Physical education has benefits for maintaining fitness and health, as well as providing experience for students to learn healthy lifestyles (Mustafa, 2021). Physical Education basically has main goals in three domains, namely attitudes, knowledge, and skills that can be achieved through learning motion and physical activity that adopts sports movements (Masgumelar & Mustafa, 2021). As for physical education subjects, the aim is for students to have the following abilities: (1) Develop self-management skills in development and maintenance efforts physical fitness and a healthy lifestyle through a variety of selected physical and sports activities, (2) Increasing physical growth and better psychological development, (3) Improving basic movement abilities and skills, (4) Laying a foundation of strong moral character through the internalization of values contained in physical education, sports and health, (5) Developing sportsmanship, honesty, discipline, responsibility, cooperation, confidence and democracy, (6) Developing skills to maintain the safety of oneself, others and the environment, (7) Understand the concept of physical activity and sports in a clean environment as information for achieving perfect physical growth, a healthy and fitness lifestyle, skills, and a positive attitude (Regulation of the Minister of National Education of the Republic of Indonesia Number 22 of 2006 concerning Content Standards for Units Elementary and Secondary Education).

Thus, it can be concluded that physical education is a subject that has a process of learning to move and learning through motion, which has the goal of referring to the development of the quality of the physical, psychomotor, cognitive, and affective domains. With the stimulation from learning physical education, the four domains can be formed properly. If the goals of physical education can be achieved, then indirectly also achieve the goals of education which in general is to form a complete human being who has the values.

### **Formula 1 Game Model (Run, Jump, Throw)**

#### *Games and Mods*

According to Latif (2013) mentions three types of games that are of concern to develop all intelligence and areas of children's thinking, namely sensorimotor games, role-playing games, and developmental games. First, sensorimotor play is the simplest form of play characterized by repetitive muscle movements thereby increasing the child's physical and gross motoric muscle strength. This type of game is a sensorimotor approach, children learn about nature and the surrounding environment. Functional play occurs during the sensorimotor period and in response to muscle activity and the need to be active. Functional play is characterized by repetition, manipulation and self-imitation. Functional play allows children to practice and learn physical abilities while exploring their surroundings. Young children like to repeat motions for pleasure; they engage with sensory impressions for the pleasure of experiencing bodily functions. Second, role play is a spontaneous and independent activity when children test, clarify and increase their understanding of themselves and their own world. Role playing can develop into a drama, an art form, a social activity and a way of learning. Role play consists of macro role play and micro role play. This type of macro role playing is played in the nature of cooperation with more than 2 people, even more especially for kindergarten-age children, while micro role playing is the beginning of working together with only 2 people, not alone. Third, constructive play is an activity through play that is constructive, fostering improvement, where children use materials to make something that is only intended to be useful, but is shown as the joy that is obtained from making it.

Each school certainly has different facilities and infrastructure. In fact, according to the researcher's analysis, many schools lack infrastructure facilities to support the learning process, especially in physical education learning. Therefore, this physical education teacher is required to be more creative in optimizing the facilities and infrastructure that are being developed. If the physical education teacher is creative, then he is able to create something new, or modify an existing one, but present it in the most attractive way possible, so that students will feel happy following the physical education learning process. With the enthusiasm of students in participating in learning, it will improve their learning outcomes.

*Formula 1 (Run, Jump, Throw)*

According to Charles Gozzoli, et. al in his book A Team Event for Children stated that, The Formula-One is a team event in which each team member has to complete the full course. Up to six teams can compete at the same time on one course. The distance is about 60 m or 80 m long and is divided into one area each for flat sprinting, for sprinting over hurdles and for sprinting around slalom poles. A soft ring is used as the relay baton. Each participant has to start with a forward roll on the tumble mat. Free translation from Charles's opinion (Inawati, 2012), Formula 1 is a team event where each team member must complete the event in full. Up to six teams can compete at the same time on one program. The length of the track is 60 m to 80 m and is divided into one area each for sprinting, for running while jumping over obstacles, and for running to avoid slalom poles (flags). A soft ring is used as a baton. Each participant must start with a forward roll on the mat.

*Game Rules*

Assessment: Ratings are evaluated according to time: the winning team becomes the one with the best time. The next team is ranked according to their finishing time. Assistant: For each area (hurdles, slalom) at least two assistants are required to set up the equipment properly. In addition to the team officer, two additional assistants are required to serve as exchange zone judges. One person also needs to be a starter. Finally, there is a need to have multiple timekeepers because there are multiple teams competing in the game. The timekeeper is also responsible for keeping score on the event card.

*Formula 1 Game Description (Run, Jump, Throw)*

The following is a descriptive formula 1 game: Procedure: (a) Circumvent the track of approximately 80 meters which is divided into sprint, hurdles and slalom areas; (b) The relay bracelet is used as a means of displacement; (c) Each competitor must start with a front or side roll on the mat; (d) Each participant must complete the track and give the bracelet to the next participant; (e) A start may be made of up to six teams together; Assessment (f) Ranking is done based on the time recorded by each team; (g) Likewise for the following groups, according to the time ranking. Equipment: (a) 9 hurdles; (b) 10 hurdles/slalom poles (1 meter spacing between each pole); (c) 3 foam hurdles/mat; (d) Approximately 30 cones/marks; (e) 1 stopwatch; and (f) 1 race card.

The Formula 1 game (Run, Jump, Throw) is a development of the Formula 1 game in kid's athletics which is a combination of several basic movements in athletics, namely running, jumping and throwing. This Formula 1 game (Run, Jump, Throw) has a field in the form of a straight track whose length is 40-45 m and the width of each track is 3 m which is divided into two tracks. This game is divided into an area consisting of

three posts, each of which has different obstacles that runners must pass. The obstacles are in the form of rolling on the mat, zig-zag running over the slalom poles, running over obstacles, rejecting modified bullets over the bar, sprinting back to the start. Formula 1 games (Run, Jump, Throw) are played in teams or teams, one team consists of 5 students/students. Where the runners compete with each other to reach the highest point.

This game is played in the form of teams or teams, each team has 5 students/students. These five students line up backwards behind the start line. This game is played with a race system or competitive system. These five runners alternate one by one from the start line to the finish line. The Formula 1 (Run, Jump, Throw) game system is as follows: The first runner starts, at the first post the runner rolls forward after that he pushes in a standing position towards the front with 36 modified bullets that are already available on the first post line of repulsion. Then the student runs a distance of 7 m forward to enter post II, before carrying out the next repulsion in post II there are obstacles in the form of jumping tires, runners must jump over these tires three times using both feet. Arriving at the obstacle line, runners encounter slalom obstacles that must be passed by runners. The slalom obstacle is a row of flags, the distance between the flags is 1 m and a height of approximately 1.5 m. Runners must avoid this by running in zig zags four times.

After arriving at the line of repulsion, the runner takes the modified bullet (kargel) that is already available and is then pushed forward with a sideways force without prefix which is approximately 7 m by passing the bullet over a 3 m high bar. After finishing refusing, the runner runs forward 7 m to get to the last post, namely post III, before the runner makes the next repulsion in this third post there is an obstacle that must be passed, namely the jumping funnel obstacle. The jumping funnel obstacle course is a large oil funnel which is lined up in three rows with a distance of 1 m between the funnels, the height of which is approximately 40-45 cm. Arriving at the line of repulsion, the runner takes the modified bullet (kargel) that is already available, which is then pushed forward with the initial sideways force as far as possible by aiming at the target in the form of a numbered target where the farther the target, the greater the point. After repulsing and the modified bullet (kargel) falls on the ground, the runner exits the track to run back to the back towards the 37-start line to give a signal to his friends (high-fives/claps) to continue running immediately.

The team that can be declared the winner or become the champion in a Formula 1 game (Run, Jump, Throw), is the team or team that gets the most points. The following is a table of scoring systems in Formula 1 Games (Run, Jump, Throw).

**Table 2. Formula 1 Game Evaluation System (Run, Jump, Throw)**

Pos	Occurs Point 1	Breach (Point -1)
Pos 1	<ol style="list-style-type: none"> <li>1. Do one front roll without getting off the mat.</li> <li>2. Do repulsion in a standing position without crossing the line of repulsion</li> </ol>	<ol style="list-style-type: none"> <li>1. Do not roll forward once.</li> <li>2. Refuse by standing over the line of repulsion</li> </ol>
Pos 2	<ol style="list-style-type: none"> <li>1. Do a two-foot jump inside the tire.</li> <li>2. Run zigzags avoiding slalom flags.</li> <li>3. Doing repulsion in a sideways style without starting over the bar without crossing the line of repulsion.</li> </ol>	<ol style="list-style-type: none"> <li>1. Out of order in passing the slalom flag</li> <li>2. The repulsion does not cross the bar and also crosses the repulsion boundary line.</li> </ol>
Pos 3	<ol style="list-style-type: none"> <li>1. Doing running while jumping on one leg through the jumping funnel.</li> <li>2. Doing repulsion with a sideways style as far as possible without crossing the line of repulsion</li> </ol>	<ol style="list-style-type: none"> <li>1. Not jumping over the jumping funnel on one leg.</li> <li>2. Do not refuse sideways and when refusing crosses, the line of repulsion</li> </ol>

In post III, you will get an additional value/bonus if at the time of rejecting the bullet, the modified bullet falls according to the number it dropped. The modified bullet falls at number one, then it will get an additional point, number two will get an additional point two, number three will get an additional point three. Additional points are written on the postal executor card III. For the team or team that finishes the game first, there will be an additional point/value of five points (Roykhan, 2016).

### *Locomotor Activity*

Locomotor movement is the main activity of moving a person's position to move from one place to another such as walking, running, and jumping. Locomotor movements for children will help children to explore their environment optimally (Kristi, 2020). Where movement skills specifically consist of a form of locomotor movement skills, namely motion consisting of basic movement skills that require individuals to move

the body from one place to another. Meanwhile, according to Ikee (2016) Basic locomotor motion is a type of movement characterized by the movement of the whole body in the process of moving places or points of weight from one fulcrum to another. The basic movements of walking, running and jumping are basic locomotor movements that need to be implemented and developed in elementary schools. So, from the opinions of the experts above, it can be concluded that the basic locomotor movements are body movements that move from one place to another consisting of the basic movements of walking, running, jumping:

#### Road

The walking movement that at first could not be done properly, after going through a period of gradual growth the child is able to make walking movements more smoothly and is able to move faster. Walking is the most widely used activity as well as a basic individual skill. Used alone or just walking or in combination with other movements and forming some more complex skills, walking is a basic activity of basic locomotor movements. In carrying out walking movements there are variations that can refer to space, direction, time and additional movements, these variations include walking based on children's creations, walking like animals, walking on tiptoe, walking in straight lines, and walking on boardwalks. Walking is the most widely used activity as well as a basic skill for every individual. Used alone or just walking or in combination with other movements and form some more complex skills. Walking is a basic locomotor basic movement activity.

#### Running

The running movement is a development of the walking movement. The basic movement of the limbs while running resembles the movement of walking. The difference lies in the rhythm of the swinging steps in running, the rhythm is faster and there are moments when Sukamti's opinion flies (Kristi, 2020). As they get older, children will be able to make running movements with better and more varied movements of their hands and feet. Adequate practice opportunities will support children's running skills to be more optimal. Running can also be varied according to the needs and conditions of students as well as facilities and infrastructure so that it can stimulate students to move.

#### Jump

Gallahue, et al (2012) revealed that jumping is a resisting movement and absorbing force by landing on one foot. The jumping motion requires significant muscle strength, body coordination, and dynamic balance. Mulyono (2019) says that jumping is a movement that is formed from the movement of walking or stepping from a rather high place to a lower place, for example going down the stairs or getting off a short

bench. So it can be concluded that jumping is a refusal movement using one foot from a higher place to a lower place and vice versa.

#### **D. Conclusion**

Physical education can be interpreted as an educational process that aims to build the growth and development of students from the physical, intellectual, movement skill, and attitude aspects that are carried out through physical activity or gestures, so that they become human beings who are healthy, intelligent, skilled in moving, and virtuous character so that it can have a good influence on the quality of his life in the future. It is necessary to pay attention to the implementation of physical education in schools because in supporting the growth and development of students it is also determined by the implementation of physical education in schools. Based on field observations of 56 students in class III a and b, there were 27 students, or 48.21% who had problems in the learning process, namely a lack of interest in participating in the locomotor basic motion learning process. Therefore, physical education teachers must be more creative and innovative so that students do not feel bored. Formula 1 games (Run, Jump, Throw) can be maximized by physical education teachers in carrying out locomotion learning activities because they are mutually continuous and have an element of play so they are very suitable for elementary school students.

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#### **References**

Blegur, J. (2017). *Small Games: Theory and Applications*. Jusuf Aryani Learning.

Gellahue, D. (2012). *Understanding Motor Development, Infants, Children, Adolescents Adults*, Seventh Edition. Mc Graw hill.

Ikee, P. A. (2016). Improvement of Basic Locomotor Movement Skills. Using the Play Method in Physical Education Learning Class III C Students at SDN KRIAN 3 Sidoarjo Regency. *Physical Education*, 229–237.

Imaniar, R. (2013). *Development of Athletic Learning Model Through Formula 1 Game Modification (Run, Jump, Throw) In Class VII Students of SMP N 5 Pemalang*. Semarang State University

Inawati, N. (2012). Kid's Learning Model for Formula 1 Running Numbers on the Beach to Increase the Speed of Movement in Grade V Students at SDN Poncol 04

Pekalongan City in the 2010/2011 Academic Year. *Thesis: UNNES Bachelor of Education Program.*

Juliana, D. G., Widana, I. W., & Sumandy, I. W. (2017). The relationship between achievement motivation, study habits and interest in learning towards learning outcomes in mathematics. *Emasains, flight.* 6(1), 40–60.

Kristi, U. (2020). Development of a Model of Physical Activity Through Circuit Games to Develop Basic Locomotor Ability in Under Grade Students. *Thesis: Yogyakarta State University.*

Kristina, P. C., & Pratama, R. R. (2019). Development of Game-Based Athletic Learning Models in Elementary Schools. *Gladi: Journal of Sports Science*, 10(02) 99–111.

Latif, M., Zukharirina., Zubaidah, R., & Afandi, M. (2013). Orientation of Early Childhood Education. Jakarta: Kencana Predana Media Group.

Masgumelar N. K., & Mustafa, P. S. (2021). Blended Learning-Based Sports Education for High Schools. *Journal of Kejaora (Physical Health and Sports)*, 133-144.

Mulyono, J. (2019). *Development of Interactive Media Jalalom Games (Walk, Run, Jump) In Learning Variation of Basic Locomotor Movements in Class IV Elementary School.* University of Muhammadiyah Malang.

Mustafa, P. S. (2021). Implementation of Behaviorism Theory-based Training Learning Model in Physical Education in Class VII Junior High School Football Game Materials. *Journal of Sports Coaching Education*, 39-60.

Regulation of the Minister of National Education of the Republic of Indonesia Number 22 of 2006 concerning Content Standards for Units Elementary and Secondary Education

Roykhan, M. (2016). *Effectiveness of Locomotor Movement Exercise to Improve Gross Motor Ability in Moderately Disabled Students in Class 3 SD At SLB Wiyata Dharma 3 Sleman.* Yogyakarta State University.

Sugiyono. (2015). Educational Research Methods (Quantitative, Qualitative and R&D). Bandung: Alfabeta.