

# JUARA: Jurnal Olahraga

E-ISSN 2655-1896 ISSN 2443-1117 https://doi.org/10.33222/juara.v8i2.3423



## Effectiveness of Problem-Based Learning Model in Science Learning: A Meta-Analysis Study

Agus Sutriawan<sup>1\*</sup>, Irvan<sup>2</sup>

<sup>1,2</sup> Departemen Physical Education, Universitas Negeri Makassar, Jl. AP. Pettarani Makassar, Sulawesi Selatan, 90221 Indonesia

\*e-mail: agus.sutriawan@unm.ac.id

e man. agus.satriawanagu	Milliac.rd					
Info Artikel	Abstrak					
	This study aims to determine; 1) is there a contribution between arm strength and					
	the The purpose of this study is to find out how well high school students in 2023 can throw shot put. This research is a type of descriptive research using a survey					
	approach. The data collection method uses a shot put throwing ability test. The					
	population for this study was high school students in 2023. There were 56 students,					
	and the researcher used a total sample technique to collect their data. Methods of					
Keywords:	data analysis using descriptive analysis. The results of the study showed that the students' shot put ability at SMA Negeri 3 Pinrang was in the moderate category					
Shot put, Athletics,						
Student						

#### INTRODUCTION

The 2013 Physical Education Curriculum includes 12 Basic Competencies. Competencies include training variations and combinations of athletic talents (fast walking, running, jumping and throwing) (Candra et al., 2023). Shot put is one of the throwing events that uses its energy by pushing or repelling the bullet instead of throwing it. According to

(Hasanuddin, 2018). Pinrang 3 Public High School students received material on the sport of shot put as one of the numbers in the athletics branch. Almost no students are interested in continuing this material because there are several obstacles that make it difficult to complete the learning process. Indonesian people have a strong affinity for athletics which is considered the "mother" of all other sports

(akhir & Wulandari, 2021). Athletics is popular in various social and educational institutions, including junior high schools. This applies both to society as a whole and to educational institutions in particular. Athletics as a form of sport that can be learned in the field can help the health and physical fitness of students, and athletic learning activities in schools (Yafdas, 2018).

Middle schools always focus on aspects of excitement and enthusiasm in order to improve educational learning outcomes, one of which is through sports, namely shot put. This is done to keep students engaged and interested in their education. Efforts and basic technical instructions are needed to develop shot put throwing abilities in order to achieve the best learning outcomes. The main aspect that must be taught to students so that they can master techniques effectively is mastery of basic techniques.

A shot put is a type of throw that counts towards a total, but differs from other types of throws in that the bullet is not thrown but rather is repelled or pushed from the shoulder with one hand. The difference between repulsion and throwing lies in the fact that when the object is released, the former produces speed, while the latter has a strong forward thrust (Sukendro & Yuliawan, 2019). Repulsion is a movement that transmits energy to an object. The wrist does move during resistance, but it is the movement of straightening the elbow that is the source of its strength. According to (Handayani, n.d.), the rules for the shot put field must be circular and the diameter must be 2,135 meters.

Based on the results of observations made by the research team, the obstacles faced were the students' lack of mastery of basic shot put techniques, both quality and quantity, as well as the limited ammunition (means) used. During the learning process, there are still many students who just sit and do nothing. In implementing the shot put learning process, physical education, sports and health (PJOK) teachers must use several versions of the game to ensure that learning can run as it should (Lengkana et al., 2017).

Learning is carried out exclusively at this school according to the topic, and there are no pre-learning or warm-up activities designed to make students interested in the material being taught. The unconscious impact of everything that will affect the level of physical fitness and mastery of students' movement abilities must be developed in a way that is in harmony with proper movement development. Students are required to be able to shoot accurately and efficiently as part of this curriculum. PJOK teachers will be intimately involved in the learning process that takes place in the classroom, so their function is very crucial. The PJOK teacher's ability to provide students with learning materials and student motivation to continue learning are very important factors in determining how successfully PJOK can be learned. A PJOK teacher is required to be aware of this, so that the program implemented by PJOK in schools is a program to increase students' abilities in the field of implementing athletic learning with relevant content.

The process of achieving students' basic shot put learning outcomes becomes a

benchmark for success in shot put education. Because children who participate in middle school activities generally do not have a high level of talent, teachers must place a strong emphasis on proper technique. Mastery of movement skills is below standard due to the limited equipment provided to students at the institution. Likewise, coaching efforts are aimed at achieving shot put learning outcomes for high school students.

In order for every student to get good grades in learning the basic shot put movements and to be able to excel in the sport of shot put, they must first master the basic techniques to be able to perform the basic shot put movements. This will enable students to get good grades in learning the basic movements of repulsion. (Rahmat, 2015) explains that the way to hold it is that the bullet is placed on all fingers which are stretched in a relaxed manner. Focus on the index finger, middle finger, and ring finger, this approach is the most successful, but one must have strong fingers to use it that way. This can make throws farther because the wrist and fingers can work at their optimal level. When the body rotates quickly, when the body rotates, swap the front leg with the back leg by jerking, the bullet is repelled with a sharp swing, from the side to the front in the direction of repulsion (parabola shape). Next while opposing rotate the waist and shoulders sideways to the front.

Based on the presentation of the findings from observations, there are times when, even though they have tried to carry it out optimally, students still often encounter various obstacles that affect the success of implementing shot put. Therefore, it is important to study this method in order to better understand the basic ability level of students at SMA Negeri 3 Pinrang in carrying out basic shot put techniques.

#### **METHODS**

This type of research is quantitative descriptive research. Arikunto (2006: 302) in (Fakhrullah & others, 2020) states that "descriptive research is not intended to test certain hypotheses, but only explains "what exists" about variables. symptoms orcircumstances. The method used in this research is survey research with test and measurement techniques. The population in this study were students of SMA Negeri 3 Pinrang in 2023, totaling 56 students. Sampling used total sampling techniques. The instrument used in this study is a test of the ability to resist bullets.

#### FINDINGS AND DISCUSSION

### **Findings**

The data in this research are the results of the shot put ability of students at SMA Negeri 3 Pinrang. The results of shot put ability can be seen in the table as follows;

Table 1. Summary of Descriptive Analysis Results of shot put ability data

Description	Bullet Rejection Ability	
N	56	
Mean	10,24	
Standard Deviation	0,97	
Maksimum	12	
Minimum	8,2	

Based on the results of descriptive test data on the shot put ability of high school students from a total of 56 students, a maximum score of 12 was obtained, a minimum score of 8.2, a standard deviation value of 0.97, and a mean value of 10.24. Furthermore, based on

data analysis of the results of research that has been carried out regarding the shot put ability of Pinrang 3 Public High School students, a recapitulation of the research categorization results can be seen in the table below:

Tabel 2. Rekapitulasi hasil kategorisasi data Kemampuan tolak peluru

No.	Norm Range	Category	Frequency	Percentage (%)
1.	X + 1,5 SD up	Very good	5	8,9
2.	X + 0.5 SD s/d X + 1.5 SD	Good	12	21,4
3.	X - 0.5  SD s/d  X + 0.5  SD	Enough	22	39,3
4.	X-1,5~SD~s/d~X-0,5~SD	Not enough	12	21,4
5.	Less than X - 1,5 SD	Very less	5	8,9
Total			56	100

From the table above, it can be seen that the results of data analysis on high school students' shot put ability are in the very poor category as many as 5 students or 8.9%, 12 students in the poor category or 21.4%, 22 students in the sufficient category. or 39.3%, 12 people in the good category or 21.4%, and 5 people in the very good category or 8.9%. So based on the results above, it can be said that the level of shot put ability of SMA Negeri 3 Pinrang students is in the medium category.

The process of achieving students' basic shot put learning outcomes becomes a benchmark for success in shot put education (Sultoni & CK, 2014). Because children who participate in high school activities on average do not have a high level of talent, teachers must place a strong emphasis on proper technique. Mastery of movement skills is below standard due to the limited equipment provided to students at the school. Likewise, in the context of coaching efforts to achieve learning outcomes for students at SMA Negeri 3

Pinrang, at the initial stage it is necessary to provide learning material for basic rejection techniques to students who are able to learn it. SMA Negeri 3 Pinrang students have not demonstrated strong mastery of motor skills overall.

Each student must first be proficient in the basic procedures involved in performing a basic shot put, as there is a lot of value in mastering these basic shot put movements and then being able to achieve success in the sport of shot put (Mukholid, 2007). This method is the simplest, but not effective for throwing because all the fingers do not function properly. The bullet is placed as in the first method, then the tip of the palm is used to pull the bullet so that the focus of the bullet is in the hand. (Putra & others, 2019) explains that this way of holding, where the bullet is placed in all fingers while relaxed, is the easiest way. Apply weight to index finger, middle finger, and ring finger; this approach is the most successful, but one must have strong fingers to use it that way. This can make throws farther because the wrist and fingers can work at their optimal level (Kridasuwarso et al., 2020). When the body rotates quickly, when the body rotates, swap the front leg with the back leg by jerking, the bullet is pushed away with a sharp swing, from the side to the front in the direction of repulsion (parabola shape) (PROGO & JASMANI, n.d.). This temporarily opposes rotating the waist and shoulders sideways to the front.

The shot put ability of SMA Negeri 3 Pinrang students which is in the medium category can be caused by several factors. Apart from facilities and infrastructure factors, the frequency with which students practice basic shot put techniques is the most important factor so that most students are not able to do basic shot put techniques well (Afriadi, 2022). So in the future it is hoped that teachers and schools can provide a forum for students outside of school hours, both in the form of extracurricular activities and other activities in order to improve students' shot put abilities.

#### CONCLUSION

Based on the results of the analysis and data collection from the research, it can be concluded that the shot put ability of students at SMA Negeri 3 Pinrang is mostly in the medium category.

#### **REFERENCES**

- Afriadi, A. (2022). Upaya Peningkatan Pembelajaran Gerak Dasar Tolak Peluru Dengan Menggunakan Modifikasi Alat Pada Siswa Kelas VII MTS Darun Na'im Simpang Kubu. Universitas Islam Riau.
- Akhir, R., & Wulandari, F. Y. (2021). Evaluasi Cabang Olahraga Atletik PASI Kabupaten Bojonegoro. Jurnal Prestasi Olahraga, 4(12), 67–81.
- Candra, O., Prasetyo, T., & Rahmadani, A. (2023). Pembentukan Karakter Melalui Olahraga. Eureka Media Aksara.
- Fakhrullah, F., & others. (2020). Pola Pembinaan Prestasi Olahraga Sepak Takraw Klub Rameune Tahun 2019. Serambi Konstruktivis, 2(1).
- Handayani, W. (n.d.). Infrastruktur Olahraga.
- Hasanuddin, M. I. (2018). KONTRIBUSI
  PANJANG LENGAN, KEKUATAN
  OTOT LENGAN DAN DAYA LEDAK
  LENGAN TERHADAP KEMAMPUAN
  TOLAK PELURU GAYA
  MEMBELAKANGI PADA SISWA

- SMP NEGERI 6 KOTABARU M Imran Hasanuddin. 23–32.
- Kridasuwarso, B., Hakim, A. A., Or, S., & Or, M. (2020). BIOMEKANIKA OLAHRAGA (Bagi Guru dan Pelatih Olahraga) Pemahaman Dasar Tentang Biomekanika Aplikasinya dalam Bidang Olahraga. Jakad Media Publishing.
- Lengkana, A. S., Supriadi, C., Hermawan, D. B., & Soleh, M. A. (2017). Prosiding Seminar Nasional Pendidikan Jasmani 2017 Implementasi Model Pembelajaran Penjas dan Modifikasi Alat Belajar. UPI Sumedang Press.
- Mukholid, A. (2007). Pendidikan Jasmani Olahraga & Kesehatan. Yudhistira Ghalia Indonesia.
- PROGO, K. K., & JASMANI, P. G. S. D. (n.d.).

  TINGKAT KEMAMPUAN GERAK
  DASAR TOLAKAN SISWA KELAS V
  SD NEGERI 2 NGULAKAN
  KECAMATAN PENGASIH.

- Putra, Y. A., & others. (2019). TINGKAT KEMAMPUAN TOLAK PELURU PADA PESERTA DIDIK KELAS VIII DI SMP NEGERI 2 WONOSARI GUNUNGKIDUL TAHUN 2018. Pendidikan Jasmani Kesehatan Dan Rekreasi, 8(2).
- Rahmat, Z. (2015). Atletik dasar dan lanjutan. Atletik Dasar Dan Lanjutan.
- Sukendro, S., & Yuliawan, E. (2019). Dasar-Dasar Atletik. Salim Media Indonesia.
- Sultoni, I., & CK, B. F. (2014). Pengaruh Penerapan Modifikasi Permainan Terhadap Efektivitas Pembelajaran Tolak Peluru Studi Pada Siswa Kelas V Sdn Wonoplintahan I/276 Prambon Kabupaten Sidoarjo. Jurnal Pendidikan Olahraga Dan Kesehatan, 2(01).
- Yafdas, Y. (2018). Peningkatan Pembelajaran Lari 80 Meter Melalui Tag Games Di SMK Negeri 1 Numfor Kabupaten Biak Numfor Provinsi Papua. Jurnal Locomotor, 1(1).