

## ESCALATION OF HIGH SCHOOL STUDENTS' SHOT-PUT LEARNING OUTCOMES THROUGH PLAY METHODS

La Kamadi<sup>1</sup>, Awaluddin<sup>2</sup>, Andi Ridwan<sup>3</sup>, Ishak Bachtiar<sup>4</sup>, Fatoni<sup>5</sup>

<sup>1, 2, 3, 4, 5</sup> Universitas Negeri Makassar, Indonesia

---

### Article Info

#### Article history:

Received December 18, 2024

Revised February 20, 2024

Accepted March 19, 2024

---

#### Keywords:

Learning Outcomes;

Playing Method;

Shot Put

---

### ABSTRACT

The goal of this study is to determine whether the playing method approach improves shot put learning outcomes for high school students. The research subjects were 36 students in class X Science 2 of Senior High School, Makassar. This study conducted classroom action research in two cycles, with each cycle encompassing planning, action, observation, and reflection. Tests, documentation, and observation are used to collect data. The research results showed that in the first cycle analysis, there were 15 students (42%) in the complete category, and in the second cycle, there was a significant increase, with 35 students (97.2%) in the complete category. According to my observations, 42% of student learning outcomes in cycle I increased by 97.2% in cycle II. According to observations from cycles I and II, applying the playing method can improve learning outcomes in shot put.

Copyright © 2024 ETDCI.

All rights reserved.

---

### Corresponding Author:

La Kamadi

Universitas Negeri Makassar, Indonesia

Email: [la.kamadi@unm.ac.id](mailto:la.kamadi@unm.ac.id)

---

## 1. INTRODUCTION

Physical education is an integral part of the overall educational process, which uses physical activity as a medium or tool to achieve goals (Shimon, 2019). Physical education aims to develop individuals organically, neuromuscularly, intellectually, and emotionally (Kohl & Cook, 2013; Setyawan et al., 2022; Apriani et al., 2023). Physical education is an educational process that uses systematically planned physical activities within the framework of the National Education System to develop and improve individuals organically, neuromuscularly, perceptually, cognitively, and emotionally. In addition, Rico-González (2023); and Pap et al. (2023) stated that physical education has the potential to make a special contribution to educational and social values, including physical health, the development of social skills, increased emotional and affective well-being, and improved academic performance.

Secondary Physical Education in Ontario, Canada, is implementing school-level programs to introduce the development of personal fitness, competencies, skills, attitudes, and knowledge that will help students deal with various personal and social

demands in the future (Luke, 2000; Hobin et al., 2013; Petherick, 2018). The learning process is essentially an interaction between teachers and students. The process involves the delivery of messages from teachers through certain media to message recipients or students. The teacher will convey the content of the teachings or material in the curriculum to the students (Brown, 2011; Yang & Wang, 2020).

One athletic event, the shot put, serves as a valuable teaching tool for physical education (Kok et al., 2020; Thaqi et al., 2021). We must overcome the limitations of using bullets as a learning medium, ensuring students don't have to wait too long for physical education lessons. Therefore, to provide students with more opportunities to engage in spontaneous learning, physical education teachers must incorporate creativity and innovation into their teaching methods (Xiong et al., 2020; Krause et al., 2020; Almusawi et al., 2021). This research employs a variety of games to enhance the learning experience, making it more engaging and enjoyable. Unknowingly, learning shot put using the basketball method has an impact on the level of physical fitness and mastery of the basic movement skills of the sport, which serve as the learning material. Students should be able to execute shot-put movements well and correctly by using the basketball method in their learning.

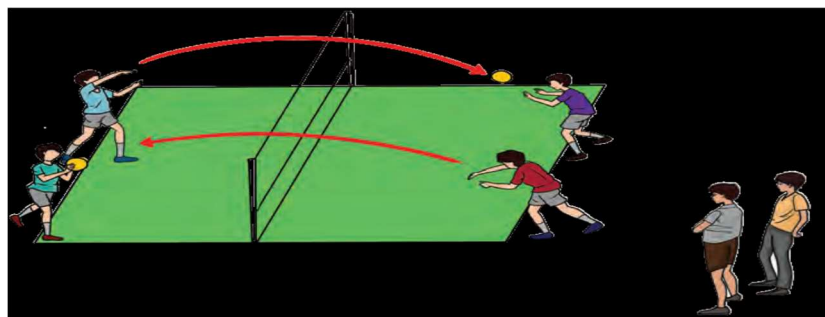
From these problems, researchers aim to examine the learning outcomes of developing a shot-put learning model using the basketball method, to create an engaging and innovative learning experience without compromising the content of the main learning material. The Play Method is a fundamental medium for acquiring social skills (Gallahue & Donnelly, 2007; Martynova & Kapustin, 2016). The stages in the playing method involve pushing the basketball as high and far over the net as possible.

#### 1. Preparation

- a. Students line up on the field.
- b. Students are divided into pairs.
- c. Students face the direction of the basketball's throw between the net.
- d. The student is holding the basketball over his shoulder with one hand.

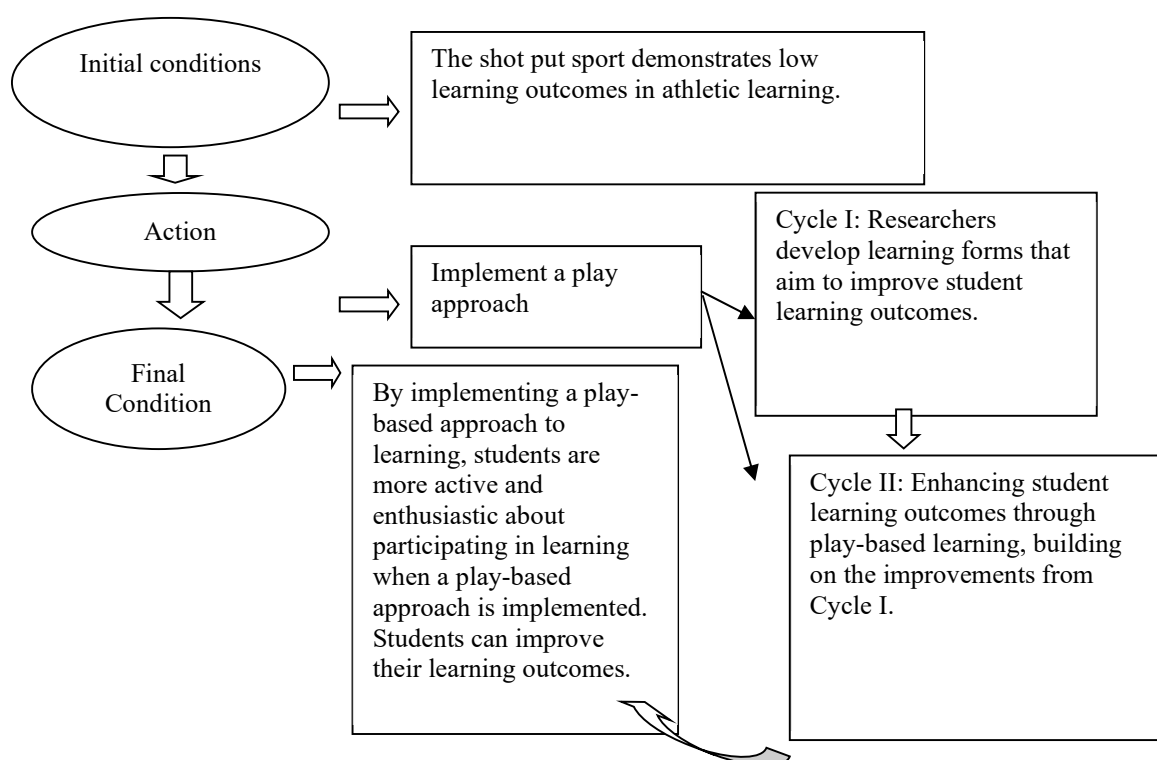
#### 2. Implementation

- a. Student A pushes the basketball over the net to Student B.
- b. Basketball passes over the net
- c. Each student has the chance to decline basketball three times.



**Figure 1.** Rejecting the ball into the target area over the net

This playing method aims to introduce the problem of shot put movement in general, especially indirect shot put, and the correct way to put the shot put in terms anatomically (Firmansyah & Irwansyah, 2018; Kok et al., 2020; Mastalerz & Sadowski, 2022), improve the attitude of rejecting bullets, and improve student learning outcomes regarding learning, so that in the end it can improve student learning outcomes. The specific aim of the shot put playing method is to increase concentration, resistance strength, movement reactions, and acceleration of students' movements, as well as increase self-confidence and feelings of courage (Asmi et al., 2018; Suardana, 2019; Nugroho & Purnomo, 2019). According to the description above, the shot put is extremely important to support the class's athletic abilities. For this reason, we present a simplified explanation of the research framework in the following chart.:



**Figure 2.** Thinking Framework

## 2. METHOD

Classroom action research is a type of research that repeats a continuous action cycle or cycles at least twice. Each cycle begins with four phases, namely planning, action, observation, and reflection (Mertler, 2009; Stringer & Aragón, 2020; Arikunto, 2021). We conducted this research in two cycles, identifying the advantages and disadvantages of the improvements from the first cycle. Based on the shortcomings found in Cycle I, the researcher continued in Cycle II.

As we previously understood, action research encompasses four key components: (1) planning, such as learning plans and observation boards; (2) action, where the researcher executes planned actions; (3) observing, which involves the researcher's

behaviors and their observations of completed activities; and (4) reflecting, which involves reviewing the given plan to enhance performance at the subsequent meeting (Stringer & Aragón, 2020; Arikunto, 2021).

We cannot carry out class actions in a single meeting; the results indicate the need for additional time to implement them as a plan for the next cycle. We plan to carry out this research in cycle 1, and if it is not completed, we will continue it in cycle 2. If we successfully implement this method, we can immediately conclude. If the method still requires improvement, we will carry out further planning until it becomes truly effective.

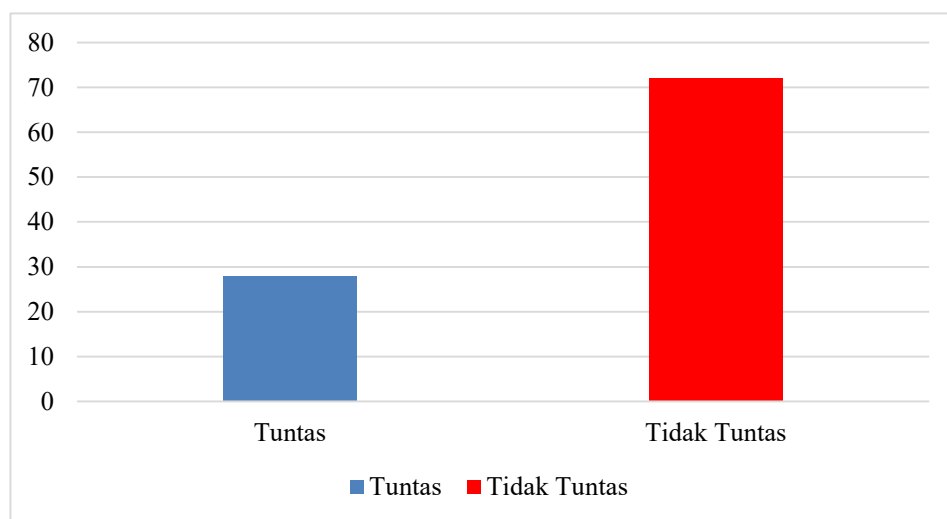
### 3. RESULTS AND DISCUSSION

#### Results

**Table 1. Description of initial student learning data**

Value Range	Criteria	Frequency	Percentage
$\geq 78$	Complete	10	28%
$< 77$	Not Completed	26	72%
<b>Total</b>		<b>36</b>	<b>100%</b>

Table 1 above shows that the percentage of complete learning outcomes is 28% complete from a frequency of 10 and 72% incomplete from a frequency of 26, so the initial data on learning outcomes for class X Science students at Senior High School Public 13 Makassar can be seen in the bar diagram below:

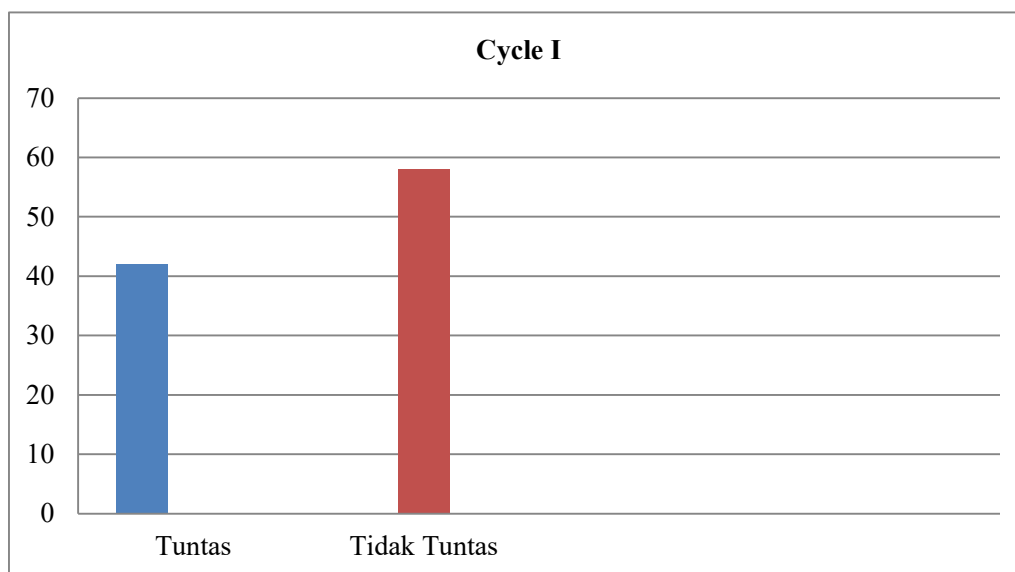


**Figure 3. Initial data on learning outcomes**

Before taking action, the initial description of the percentage of student learning outcomes explains that, out of the total number of students, there has been no increase in learning outcomes, with 72% of 26 students declared incomplete and 28% of 10 students declared complete in their learning results.

**Cycle I****Table 2.** Description of learning completeness

Completeness Criteria	Criteria	Frequency	Percentage
<75	Complete	21	58 %
>75	Not Complete	15	42 %
	Total	36	100%

**Figure 4.** Bar diagram of cycle 1 percentage value scores

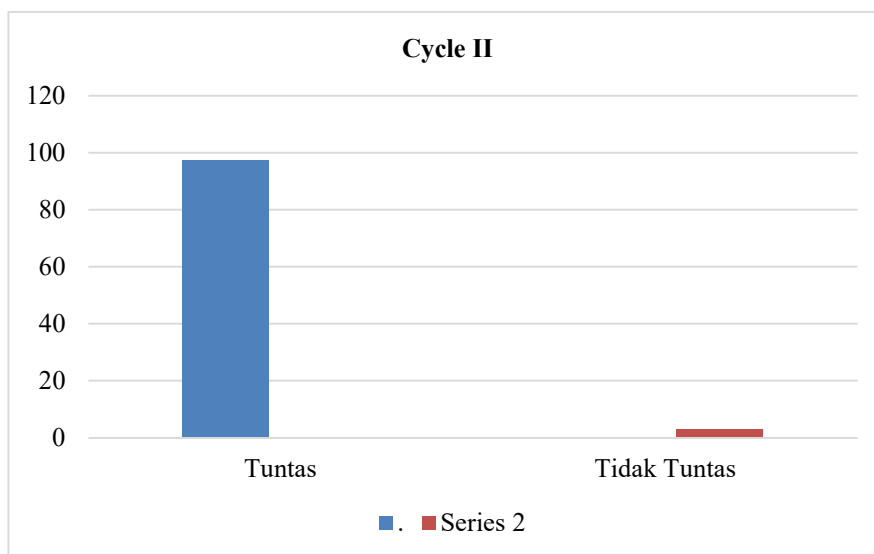
Based on the bar chart of percentage scores in cycle 1 above, it appears that of the 36 research samples, there were 58% of students did not complete with a frequency of 21, and 42% of students completed with a frequency of 15.

**Cycle II**

In the second cycle, the task involved presenting the material. The research findings from the second cycle reveal the percentage of learning outcomes that are complete enough to pass using the different methods listed below:

**Table 3.** Description of student learning completeness

Completeness Criteria	Criteria	Frequency	Percentage
<75	Complete	1	2.8 %
>75	Not Complete	35	97.2 %
	Total	36	100%



**Figure 5.** Bar Diagram of Percentage Value Scores in cycle II

### Comparison of Cycle I and Cycle II

**Table 4.** Complete description of student learning outcomes in Cycles I and II

No	Value	Category	Cycle I		Cycle II	
			Frequency	Percentage	Frequency	Percentage
1.	< 75,00	Not Complete	21	58 %	1	2.8%
2.	> 75,00	Complete	15	42 %	35	97.2%
		Total	36	100%	36	100%

Table 4 provides the following description:

- After applying the playing method in learning shot put for the entire category, the percentage of completeness of student learning outcomes was 42% in cycle I, and it increased to 97.2% in cycle II for shot put material.
- After applying the playing method in the learning shot put for the incomplete category, the percentage of complete student learning outcomes decreased from 58% in cycle I to 2.8% in cycle II.

### Discussion

Learning is a complex process and involves various interrelated aspects (Carless, 2015). Therefore, we require a variety of skills, whether they are learning or teaching, to foster creative and enjoyable learning. Teaching skills are quite complex professional competencies, as is the integration of various teacher competencies completely and comprehensively (Winterton, 2017; Karlen et al., 2020). The play method is one method that can help with early childhood cognitive development. An educator uses a method to impart knowledge to his students (Ertmer & Ottenbreit-Leftwich, 2010; Hu et al., 2020).

Playing is a pleasurable activity that focuses more on the process than the activity's outcomes. This playing method aims to introduce the problem of shot put movement in

general, particularly indirect shot put, and the correct way to execute shot put from an anatomical perspective (Suardana, 2019; Nugroho & Purnomo, 2019). It also aims to improve the attitude toward rejecting bullets and enhance student learning outcomes, ultimately leading to improved student learning outcomes. In addition, learning shot put is a complex multifactorial skill that requires a large effort in athletic development in the United States (Chow et al., 2000; Judge et al., 2011; Judge & Beller, 2012; Caughey & Thomas, 2022). This study discovered a correlation between maximal strength, jumping, 40-yard sprint time, and shot put performance.

According to the data, the number of students in the complete category increased by 58% from cycle I to cycle II. Each cycle involved three meetings for the completion process, and cycle II's implementation of the research process yielded a 97.2% completeness rate, nearly identical to the first cycle. However, cycle II saw improvements and added games, fostering a more enthusiastic and serious learning environment where students actively participated in shooting shots and learned without any teacher-imposed pressure. This study reveals a 97.2% surge in the second cycle's classical class completeness, and students achieved individual completeness with an average score of 82, surpassing the school's established KKM score.

With an average achievement level of 82 for each student, a KKM standard of 78, and a student completion score of 97.2% in cycle II, we can conclude that the classroom action research focuses on enhancing learning outcomes through the playing method for students. Therefore, we don't need to proceed with the next cycle.

#### 4. CONCLUSION

Based on the results and previous discussion, we can conclude that the playing method increased students' learning outcomes in shot put. This conclusion is based on the results of shot-put learning in cycle I for the entire category, which accounted for 48%, or 15 individuals. Cycle II saw a 97.2% increase in the percentage of shot-put learning outcomes for students in the complete category, with 35 students completing it, demonstrating an effort to improve shot put learning outcomes from cycle I to cycle II.

#### REFERENCES

- Almusawi, H. A., Durugbo, C. M., & Bugawa, A. M. (2021). Innovation in physical education: Teachers' perspectives on readiness for wearable technology integration. *Computers & Education*, *167*, 104185.
- Apriani, L., Yulianti, M., Alpen, J., & Putri, A. M. (2023). Child Character Education Through Health and Sports Physical Education. *Kinestetik: Jurnal Ilmiah Pendidikan Jasmani*, *7*(1), 135-142.
- Arikunto, S. (2021). *Penelitian tindakan kelas: Edisi revisi*. Bumi Aksara.
- Asmi, A., Neldi, H., & Khairuddin, F. U. (2018). Meningkatkan Minat Belajar Siswa dalam Pembelajaran Pendidikan Jasmani Olahraga dan Kesehatan melalui Metode Bermain pada Kelas Viii-4 Sekolah Menengah Pertama Negeri 2 Batusangkar. *Jurnal MensSana*, *3*(1), 33-44.
- Brown, M. W. (2011). The teacher-tool relationship: Theorizing the design and use of curriculum materials. In *Mathematics teachers at work* (pp. 37-56). Routledge.

- Carless, D. (2015). Exploring learning-oriented assessment processes. *Higher Education*, 69, 963-976.
- Caughey, R. M., & Thomas, C. (2022). Variables associated with high school shot put performance. *International Journal of Exercise Science*, 15(6), 1357.
- Chow, J. W., Chae, W. S., & Crawford, M. J. (2000). Kinematic analysis of shot-putting performed by wheelchair athletes of different medical classes. *Journal of Sports Sciences*, 18(5), 321-330.
- Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of research on Technology in Education*, 42(3), 255-284.
- Firmansyah, G., & Irwansyah, I. (2018). The Development Model of Learning Shot Put Oriented by Playing for Elementary School Students. *ACTIVE: Journal of Physical Education, Sport, Health and Recreation*, 7(2), 97-103.
- Gallahue, D. L., & Donnelly, F. C. (2007). *Developmental physical education for all children*. Human Kinetics.
- Hobin, E. P., Leatherdale, S., Manske, S., Dubin, J. A., Elliott, S., & Veugelers, P. (2013). Are environmental influences on physical activity distinct for urban, suburban, and rural schools? A multilevel study among secondary school students in Ontario, Canada. *Journal of school health*, 83(5), 357-367.
- Hu, M., Maillard, M., Zhang, Y., Ciceri, T., La Barbera, G., Bloch, I., & Gori, P. (2020). Knowledge distillation from multi-modal to mono-modal segmentation networks. In *Medical Image Computing and Computer Assisted Intervention–MICCAI 2020: 23rd International Conference, Lima, Peru, October 4–8, 2020, Proceedings, Part I* 23 (pp. 772-781). Springer International Publishing.
- Judge, L. W., Young, M., & Wanless, E. (2011). Using sports science and training theory to develop elite performance: a case study of a 2005 World Championship finalist in the women's shot put. *International Journal of Sports Science & Coaching*, 6(3), 365-385.
- Judge, W. L., & Bellar, D. (2012). Variables associated with the of personal best performance in the glide and spin shot put for US collegiate throwers. *International Journal of Performance Analysis in Sport*, 12(1), 37-51.
- Karlen, Y., Hertel, S., & Hirt, C. N. (2020). Teachers' professional competences in self-regulated learning: An approach to integrate teachers' competences as self-regulated learners and as agents of self-regulated learning in a holistic manner. In *Frontiers in Education* (Vol. 5, p. 159). Frontiers Media SA.
- Krause, J. M., O'Neil, K., & Jones, E. (2020). Technology in physical education teacher education: A call to action. *Quest*, 72(3), 241-259.
- Kohl III, H. W., & Cook, H. D. (2013). Physical activity and physical education: Relationship to growth, development, and health. In *Educating the student body: Taking physical activity and physical education to school*. National Academies Press (US).
- Kok, M., Komen, A., van Capelleveen, L., & van der Kamp, J. (2020). The effects of self-controlled video feedback on motor learning and self-efficacy in a Physical Education setting: an exploratory study on the shot-put. *Physical Education and Sport Pedagogy*, 25(1), 49-66.
- Luke, M. D. (2000). Physical & health education curriculum: cross-Canada perspectives. *Physical & Health Education Journal*, 66(2), 4.
- Martynova, V. A., & Kapustin, A. G. (2016). Techniques of Play Activity at Physical Education Classes at Specialized Secondary Educational Establishments. *International Journal of Environmental and Science Education*, 11(13), 6041-6055.
- Mastalerz, A., & Sadowski, J. (2022). Variability of Performance and Kinematics of



- Different Shot Put Techniques in Elite and Sub-Elite Athletes—A Preliminary Study. *International journal of environmental research and public health*, 19(3), 1751.
- Mertler, C. A. (2009). *Action research: Teachers as researchers in the classroom*. Sage.
- Nugroho, W. P., & Purnomo, E. (2019). Pengaruh Latihan Uphill Running Terhadap Kemampuan Lari Sprint Pada Siswa Peserta Ektrakurikuler Atletik Sma Negeri 2 Wonosobo Kabupaten Wonosobo. *Pendidikan Jasmani Kesehatan dan Rekreasi*, 8(1).
- Pap, Z., Maricuțoiu, L., Vîrgă, D., Ilie, M., Mladenovici, V., Popescu, B., & Valache, D. (2023). Happy teacher, healthy class? Linking teachers' subjective well-being to high-school and university students' physical and mental health in a three-level longitudinal study. *Social Psychology of Education*, 26(3), 811-831.
- Petherick, L. (2018). Race and culture in the secondary school health and physical education curriculum in Ontario, Canada: A critical reading. *Health Education*, 118(2), 144-158.
- Rico-González, M. (2023). Developing emotional intelligence through physical education: A systematic review. *Perceptual and Motor Skills*, 130(3), 1286-1323.
- Setyawan, P. B., Kamadi, L., & Haeruddin, S. (2022). Efforts to Improve the Quality of Movement Activities of Physical Education, Sports and Health, During the Covid-19 Pandemic. *ETDC: Indonesian Journal of Research and Educational Review*, 2(1), 1-9.
- Shimon, J. M. (2019). *Introduction to teaching physical education: Principles and strategies*. Human Kinetics, Incorporated
- Stringer, E. T., & Aragón, A. O. (2020). *Action research*. Sage publications.
- Suardana, P. (2019). Penerapan model pembelajaran problem based learning (PBL) dengan metode demonstrasi untuk meningkatkan hasil belajar permainan tolak peluru. *Journal of Education Action Research*, 3(3), 270-277.
- Thaqi, A., Berisha, M., & Asllani, I. (2021). The effect of plyometric training on performance levels of the shot put technique and its related motor abilities. *Pedagogy of physical culture and sports*, 25(3), 144-151.
- Winterton, J. (2017). *Competence-based vocational and professional education* (p. 1). M. Mulder (Ed.). Dordrecht, the Netherlands: Springer.
- Xiong, Y., Sun, X. Y., Liu, X. Q., Wang, P., & Zheng, B. (2020). The influence of self-efficacy and work input on physical education teachers' creative teaching. *Frontiers in Psychology*, 10, 2856.
- Yang, D., Oh, E. S., & Wang, Y. (2020). Hybrid physical education teaching and curriculum design based on a voice interactive artificial intelligence educational robot. *Sustainability*, 12(19), 8000.