
PENINGKATAN *UNDER-RING BASKETBALL SHOOTING* MELALUI ALAT BANTU *BOSU GYM BALL* DAN *DUMBBELL WRIST* PADA SISWA EKSTRAKURIKULER

IMPROVING UNDER-RING BASKETBALL SHOOTING THROUGH THE USE OF BOSU GYM BALLS AND DUMBBELL WRISTS IN EXTRACURRICULAR STUDENTS

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Received: 2025-02-09; Revised: 2025-05-11; Accepted: 2025-06-13

Abstrak

Keterampilan *under-ring shoot* merupakan teknik dasar bola basket yang krusial, namun keberhasilannya pada usia 12–13 tahun sering terkendala keterbatasan kekuatan lengan dan keseimbangan. Penelitian tindakan (*action research*) dua siklus ini bertujuan meningkatkan keterampilan *under-ring shoot* peserta ekstrakurikuler bola basket MTs Al-Ma'tuq usia 12–13 tahun melalui pemanfaatan alat bantu *Bosu Gym Ball* (untuk melatih stabilitas/keseimbangan) dan *Dumbbell Wrist* (untuk memperkuat otot lengan/pergelangan tangan). Prosedur penelitian meliputi tahap perencanaan, pelaksanaan, observasi, dan refleksi. Hasil penelitian menunjukkan bahwa integrasi kedua alat bantu tersebut secara signifikan meningkatkan kekuatan gerak tangan, keseimbangan tubuh, dan ketepatan tembakan ke arah ring peserta. Dapat disimpulkan bahwa penggunaan *Bosu Gym Ball* dan *Dumbbell Wrist* efektif dalam mendongkrak keterampilan *under-ring shoot* siswa. Penelitian ini merekomendasikan pemanfaatan alat bantu modifikasi tersebut sebagai variasi latihan yang efektif bagi kelompok usia remaja.

Kata kunci: *basketball, shooting, alat bantu, siswa, ekstrakurikuler*

Abstract

The under-ring shoot is a crucial basic basketball skill, but success at ages 12–13 is often hindered by limited arm strength and balance. This two-cycle action research aims to improve the under-ring shoot skills of 12–13-year-old participants in the MTs Al-Ma'tuq basketball extracurricular program through the use of the Bosu Gym Ball (to train stability/balance) and the Dumbbell Wrist (to strengthen arm and wrist muscles). The research procedure included the planning, implementation, observation, and reflection stages. The results showed that the integration of these two tools significantly improved participants' hand strength, body balance, and shooting accuracy toward the basket. It can be concluded that the use of the Bosu Gym Ball and Dumbbell Wrist is effective in boosting students' under-ring shoot skills. This study recommends the use of these modified tools as an effective training variation for adolescents.

Keywords: *basketball, shooting, equipment, students, extracurricular*

How To Cite: Wimbinurfalah, Y., Maulana, F., & Saleh, M. (2025). Improving Under-Ring Basketball Shooting Through the Use of Bosu Gym Balls and Dumbbell Wrists in Extracurricular Students. *Journal Of Sports Education (JOPE)*, 7 (2), 137-143. doi:<http://dx.doi.org/10.31258/jope.7.2.137-143>



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INTRODUCTION

Educational activities take place not only through curricular learning in the classroom but also through extracurricular activities that play a role in developing students' interests, talents, and skills (Candra, 2020). One of the most popular extracurricular activities is basketball, which serves as a means of developing motor skills and playing skills in greater depth (Agusna & Rismayadi, 2020; Taufik et al., 2021).

Basketball is a team sport that requires mastery of basic techniques, particularly shooting, as the sole means of scoring points (Chua et al., 2017). However, among 12–13-year-old students participating in the basketball extracurricular program at MTs Al-Ma'tuq, a low shooting success rate was still observed. This issue is influenced by the students' still-developing physical characteristics, such as relatively short stature, suboptimal arm muscle strength, and limited ability to maintain body balance.

With the standard basketball hoop height reaching 3.05 meters, these conditions pose a challenge for 12–13-year-old students. Based on observations during practices and games, many scoring opportunities are still wasted due to missed shots. Therefore, a shooting technique suited to the students' physical characteristics is required.

One technique deemed relevant is the under-ring shot—a close-range shooting technique that does not require a high leg drive and allows for the use of the backboard. This technique has a higher success rate for beginner players and can boost students' confidence (Wang et al., 2025; Hardhina, 2022).

To support mastery of the under-ring shoot technique, training is needed to improve balance and arm muscle strength (Siahaan, et al., 2020). The use of a Bosu Gym Ball can train balance and body stability, which play a crucial role in maintaining posture during shooting. Meanwhile, the Dumbbell Wrist is used to increase arm and wrist muscle strength, which supports the wrist snap during the under-ring shoot (Hashem, et al., 2022; Suryadi, et al., 2023).

Based on the above, this study focuses on the application of under-ring shoot technique training using the Bosu Gym Ball and Dumbbell Wrist as an effort to improve the under-ring shoot skills of 12–13-year-old participants in the MTs Al-Ma'tuq basketball extracurricular program.

METHOD

This study employed an action research methodology with a quantitative descriptive approach. The selection of this method was based on the research objective, namely to improve the under-ring shoot skills of basketball club members through the implementation of exercises using Bosu Gym Balls and Dumbbell Wrists. Action research was chosen because it allows the researcher to make gradual and continuous improvements to the training process through a systematic cycle of action, as stated by Kemmis and McTaggart (2014) that action research aims to improve practice through repeated reflection in a real-world context.

The study was conducted during the basketball extracurricular activities at MTs Al-Ma'tuq. The research location was selected purposively, considering that the school has an active basketball extracurricular program relevant to the study's objectives. The research was conducted in 2025, aligned with the regular extracurricular practice schedule to avoid disrupting regular classroom instruction.

The research subjects were participants in the MTs Al-Ma'tuq basketball extracurricular program aged 12–13 years. From a total population of 42 participants, 20 were selected as research subjects based on age criteria and their level of participation in practice sessions. This selection of subjects aligns with Sugiyono's (2013) view, who states that in action research, subject selection can be conducted purposively according to research needs.

The research design refers to the spiral model by Kemmis and McTaggart (2014), consisting of two cycles. Each cycle comprises four stages: planning, implementation of actions,

observation, and reflection. During the action implementation stage, participants were given *under-ring shoot* technique training using a Bosu Gym Ball to improve balance and body stability, as well as Dumbbell Wrist exercises to enhance arm and wrist muscle strength. These strength and balance exercises are crucial because technical ability in sports is significantly influenced by supporting physical conditions, particularly strength, stability, and movement coordination (Bompa & Buzzichelli, 2019).

The research instruments used consisted of an *under-ring shoot* skill test and an observation sheet. The skill test was conducted by having participants shoot the ball into the hoop as many times as possible within 30 seconds, with the stipulation that the ball must first bounce off the backboard. The test was administered at the beginning of the study as a pre-test and at the end of each cycle as a post-test to assess participants' skill improvement. Oliver (2004) states that the evaluation of basketball skills should be conducted through practical tests that reflect real-game situations.

The data obtained were analysed using quantitative and qualitative descriptive analysis. Quantitative analysis was performed by comparing the results of the *under-ring shoot* skill test across cycles to assess participants' skill improvement. Meanwhile, qualitative analysis was conducted through observation results and field notes to reinforce the interpretation of quantitative data. This combined analysis aligns with the views of Kenney, Wilmore, & Costill (2022), who emphasize that improvements in athletic skills should not only be assessed based on final outcomes but also on the training process and participants' responses during training sessions.

RESULTS

This study began with observations of 12–13-year-old participants in the MTs Al-Ma'tuq basketball extracurricular program during *under-ring shoot* practice. Initial observations showed that the participants' *under-ring shoot* skills were still relatively poor. Of the 20 extracurricular participants, only 2 were able to perform the *under-ring shoot* correctly. This low proficiency was attributed to insufficient leg push-off strength and weak wrist snap, resulting in the *under-ring shoot* movement not being executed optimally.

Based on these findings, the researcher implemented improvement efforts through interventions involving training using the Bosu Gym Ball and Dumbbell Wrist aids. The study was conducted over one cycle consisting of 8 sessions following the stages of classroom action research: planning, implementation, observation, and reflection.

Planning

During the planning phase, the researcher developed an action plan based on the issues identified in the initial observation. Activities included designing an *under-ring shoot* training program using assistive devices, obtaining research permission from the school, and preparing the facilities and equipment to be used during the training process.

Action

The intervention was implemented over a single cycle spanning 8 sessions, conducted in 2025. The first session focused on explaining and practicing the correct basic techniques for the *under-ring shoot*, as well as introducing the Bosu Gym Ball and Dumbbell Wrist aids. The second and third sessions were directed toward exercises to improve leg push-off strength, body balance, and the coordination of leg push-off and arm flick using these aids. During the fourth session, an *under-ring shoot* ability test was conducted as an initial evaluation following the intervention.

Furthermore, in the fifth and sixth sessions, participants were given advanced exercises consisting of *jump squats* on the Bosu Gym Ball, ball-to-wall push exercises, and *wrist flick* exercises using the Dumbbell Wrist to improve the explosiveness and precision of movements. The seventh session was used for a simulation test, while the eighth session

involved the *post-test under-ring shoot*. The test was conducted with the stipulation that participants must shoot the ball into the ring for 30 seconds, with the condition that the ball must first bounce off the backboard to be considered valid. Scores were awarded based on the number of valid shots made.

Observation

Observations were conducted by the researcher and collaborators throughout the intervention process. Overall, the results showed an improvement in the *under-ring shoot* performance of the 12–13-year-old MTs Al-Ma'tuq basketball extracurricular participants. The evaluation of the coach is presented in the following table:

Table 1. Results of Student Observations

Notes	Cycle I		
	Pre-Test	Results of the 4th Meeting	Post-Test
Test Results	3,9	9,95	13,1
Average		8,98	

Based on Table 1, it can be seen that the under-ring shooting ability of the 12–13-year-old participants in the MTs Al-Ma'tuq basketball extracurricular program improved during Cycle I. The pre-test results showed an average score of 3.9, which then increased to 9.95 in the test administered during the fourth session, and further improved in the post-test results to an average of 13.1. This improvement indicates that the training interventions provided were able to gradually improve the participants' under-ring shooting ability.

Table 2. Results of Coach Observations

Aspect	P1	P2	P3	P4	P5	P6	P7	P8
Coach	85	85	88	88	90	90	92	93
Average	88,88							

Based on Table 2, observations of the coach indicate an improvement in the quality of training delivery at each session. The coach's observation score increased from 85 at the initial session to 93 at the final session, with an overall average of 88.88. This indicates that the coach became increasingly capable of managing the training, guiding the participants, and providing effective instruction and motivation throughout the intervention process.

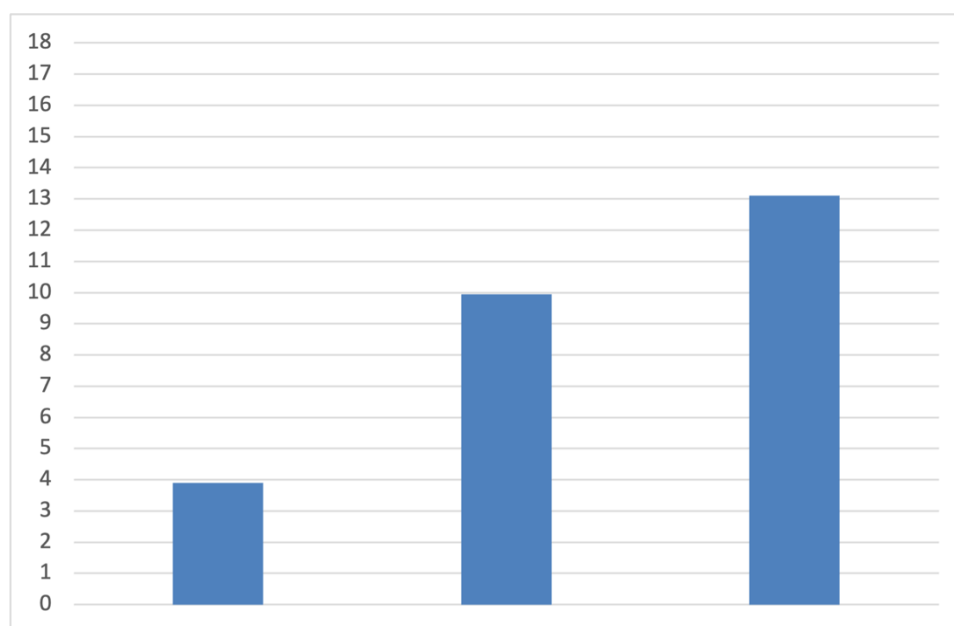


Figure 1. Results of Under-Ring Basketball Shooting Test

Visually, the improvement in participants' under-ring shoot test results during Cycle I can also be seen in Figure 1, which shows an increase in scores from the pre-test, through the 4th session test, to the post-test. This diagram confirms that training using the Bosu Gym Ball and Dumbbell Wrist aids has a positive impact on improving the under-ring shoot ability of 12–13-year-old MTs Al-Ma'tuq basketball extracurricular participants.

DISCUSSION

The results of the study indicate that implementing under-ring shoot drills using Bosu Gym Balls and Dumbbell Wrist supports for 12–13-year-old participants in the MTs Al-Ma'tuq basketball extracurricular program had a positive impact on improving their under-ring shoot technique. Additionally, the collaborators' observations of the coach revealed an improvement in the quality of drill execution from session to session. The coach's observation score increased gradually from an average of 85 in the initial session to 92 in the final session of Cycle I. This improvement indicates that the coach became increasingly capable of managing the training, conditioning the participants, and providing effective instructions and motivation throughout the training process. According to Harsono (2015), the quality of training execution is crucial for achieving training objectives, particularly among adolescent participants.

Initially, participants' under-ring shooting ability was still in the low category. This was indicated by the pre-test results, with an average score of 3.9. This low achievement suggests that most participants had not yet mastered the basic under-ring shooting technique optimally, particularly regarding foot push-off, wrist strength and snap, and coordination between foot and hand movements. According to Fox (1988), shooting skills in basketball are significantly influenced by motor coordination, muscle strength, and body balance. Weaknesses in any of these components can hinder the success of a shot.

The implementation of training exercises in Cycle I using the Bosu Gym Ball and Dumbbell Wrist proved effective in gradually improving the participants' abilities. Exercises with the Bosu Gym Ball helped train balance and body stability, thereby optimizing foot push-off, while the Dumbbell Wrist provided additional stimulation to the arm and wrist muscles involved in generating the final wrist snap during the under-ring shoot. Although participants initially

struggled to adapt to the training aids, repeated practice fostered neuromuscular adaptation, leading to improved movement quality. This aligns with the findings of Bompa & Buzzichelli (2019), who state that specific and progressive training can enhance strength, coordination, and the effectiveness of sports technique movements.

Improvements in under-ring shoot ability began to appear in the results of the 4th session test, with an average score of 9.95. These results indicate that the provided training has begun to yield effects on enhancing participants' leg push-off strength, movement coordination, and shooting accuracy. A more significant improvement was evident in the post-test results, with an average score reaching 13.1. This achievement indicates that the use of Bosu Gym Balls and Dumbbell Wrist supports is effective in refining the basic under-ring shoot technique and improving the consistency of successful shots toward the ring.

Overall, the improvement in participants' abilities is reflected not only in quantitative aspects, such as increased test scores, but also in qualitative aspects, such as increased self-confidence, better movement coordination, and participants' understanding of the correct under-ring shoot technique. These findings align with the principles of classroom action research, which emphasize continuous improvement through the stages of planning, implementation, observation, and reflection (Kemmis & McTaggart, 2014).

Thus, it can be concluded that the implementation of under-ring shoot training using the Bosu Gym Ball and Dumbbell Wrist in Cycle I was effective in improving the under-ring shoot skills of 12–13-year-old MTs Al-Ma'tuq basketball extracurricular participants. Although the improvements achieved have shown positive results, the participants' skills have not yet fully reached the optimal category. Therefore, the development and refinement of the training program in the next cycle are necessary so that improvements in under-ring shoot ability can be achieved to the fullest extent possible.

CONCLUSION

Based on the results of a study conducted on 12–13-year-old participants in the MTs Al-Ma'tuq basketball extracurricular program, it can be concluded that the implementation of *under-ring shoot* training using Bosu Gym Balls and Dumbbell Wrist bands has a positive effect on improving *under-ring shoot* skills. The pre-test results showed that the participants' initial ability was still in the low category with an average score of 3.9, reflecting weak leg push-off, wrist strength, and movement coordination when performing the *under-ring shoot*. After the training intervention in Cycle I, an improvement in ability was evident in the results of the 4th session test with an average score of 9.95, as well as a more significant improvement in the post-test results with an average score of 13.1. This improvement indicates that training using the Bosu Gym Ball and Dumbbell Wrist not only enhances shooting performance quantitatively but also improves the technical quality of the *under-ring shoot*, such as body balance, leg push-off strength, wrist snap, and overall movement coordination. Thus, the use of these two training aids can be considered effective as an alternative training method to improve *under-ring shoot* ability among 12–13-year-old basketball club participants.

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