

Effect of the BEEF (Balancing, Eyes, Elbow, Follow Through) training method on free throw shooting skill

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Abstract:

Basketball training for most coaches in West Java – Indonesia in particular still focuses on physical appearance only. Focusing on in-depth engineering aspects is still felt to be lacking. Training with the BEEF method may or even rarely be done by most trainers, especially in doing free throws. This study aims to determine the effect of the BEEF training method on basketball extracurricular free throw shooting skills in high school students. This study is a quantitative experimental research that uses the one group pretest–posttest design method. The sample in this study included basketball extracurricular members; there were 22 students with an average age of 16.18 years and a standard deviation of 0.50 years, an average height of 168.05 cm and a standard deviation of 3.50 cm, and an average weight of 56.55 kg and a standard deviation of 2.30 m. The instruments used in this study were the basketball mastery assessment instrument and the free throw shooting within one minute instrument. In this study, data analysis was performed using the t-test by comparing the results of the pretest and posttest. The research analysis results show that the free throw shooting in one minute test count is 7,931 which is greater than the table value of 2.080, which means that there is a significant effect on the results of the extracurricular free-shooting basketball test at Pasundan 2 Cimahi high school. Thus it is concluded that there is an effect of the BEEF training method on free throw shooting skills in basketball. It is recommended that coaches not only focus on physical aspects, technical refinements also need to be considered, especially for those who are new to or even learning basketball.

Keywords: BEEF Training, Shooting Free Throw, Extracurricular Basketball

Introduction

Basketball is a sports game that is characterized by fast and dynamic pace (Stojanović, 2019); therefore, it requires good teamwork and high quality shooting technique (Zakaria dhani A; Septiana Rama A; Dedi K, 2018). Some of the important factors that players must have to support their successful performance are physical ability, technical ability, and mental state management (Menegassi et al., 2018; Newland et al., 2013). This indicates that all abovementioned aspects are related to each other, just as physical abilities are related to technical and tactical abilities (Stojanović, 2021).

Some basketball techniques that should be mastered by players as a basis for evaluation are shooting, passing, and dribbling (Zhang & Zhang, 2018). One of the techniques that needs to be mastered in basketball is the free throw shooting technique. In addition to allowing to score points, this technique can determine whether the team wins or loses a game (Muttaqin et al., 2019). The free throw technique is very important, because it can directly affect the success of the team (Lam et al., 2019), and every player who has the ball is always looking for an opportunity to shoot a free throw (Rudiansyah et al., 2014). In basketball, it is not uncommon for a team to win a game in the final minutes, which may be determined by the player's accuracy in making free throws (Gooding & Gardner, 2009).

There are many training methods to improve free throw techniques. Specifically, various studies have evaluated the use of strength training methods (Rudiansyah et al., 2014), drills with grooving (Muttaqin et al., 2019), the use of rope range tools (Rubiana, 2017), applying autogenic relaxation (Rosmi, 2017) and wall shooting exercises (Hardiyono, 2019). However, these studies have not yet developed the concept of each element in the movement that plays a role in performing the free throw technique. Thus, the free throw technique is still poorly understood and is not performed sufficiently well.

The exercises given also tend to be monotonous and focus a lot on physical training and drill as a whole, while each element of each stage is not given understanding (Hambali et al., 2022). This is certainly very contrary to the concept of learning motion, where a child needs to be given stages of movement starting from parts of his body (Mukherjee et al., 2017).

The results of preliminary observations during basketball extracurricular activities at Pasundan 2 High School, Cimahi City found that the reality on the court was not as expected. Exercises that are expected to improve participants' basketball skills to achieve optimal performance are not properly performed using applied exercises. There are still many participants who have not mastered the basic techniques of *shooting free throws*. Many of the extracurricular participants shot free *throw* basketball perfunctorily, just entering the basketball hoop without paying attention to correct techniques or proper movements. Therefore, it is necessary to have a more directed training method on the role of all motion concepts in free throw movements; specifically, we will use the BEEF (balance, eyes, elbow, and follow through) exercise method. B (*Balance*) balance: the movement always starts from the floor; when catching the ball, bend the knees and ankles and adjust so that the body is in a balanced position. E (*Eyes*) eyes: for the shot to be accurate, the player must immediately focus on the target (the player must be able to coordinate the location of the ring). E (*Elbow*) elbow: maintain the position of the elbow so that the movement of the arm remains vertical. F (*Follow through*) advanced movement: lock the elbow, then release the arm, the fingers, and the wrist while following towards the ring.

This training method is developed so that the players could better understand the shooting movement concept, so that they could easily master the proper movements. Its advantages are effectiveness, efficiency, and ease of understanding (Kosasih, 2010). In carrying out this technique, the posture of the body must be as balanced as possible, so that the position and direction of the ball do not change (Barbieri et al., 2017); this balance is an important component of the mobility of coordination motion (Diekfuss et al., 2019). This BEEF training method is still slightly applied in various trainings, especially to extracurricular players in schools. This is triggered by one of them is the level of understanding of the coach of the concept of learning motion which is still lacking, so he rarely applies it to his training program. Currently, there are still many players who are not familiar with the BEEF exercise method; therefore, the researchers wish to provide better understanding of the BEEF exercise method to improve the ability of players to shoot free throw.

Method

1. Research Design

The method described in this study is an experiment that uses the *one group pretest-posttest design*, which begins with shooting a *free throw* for 60 s.

Table 1. One Group Pretest-Posttest Design

Sample	Pretest	Treatment	Posttest
N	O ₁	X	O ₂

Information: N = sample, X = Treatment in the experimental class, O₁ = Experimental class pretest, O₂ = Experimental class posttest.

2. Participants

The participants were from the Pasundan 2 Cimahi High School of Java in Indonesia; the sample included 22 students consisting of 7 female students and 15 students who play basketball. The average student characteristics are: age, 16 years old; height, 168 cm; weight, 55 kg.

3. Instruments

The research instrument uses a free throw shooting test for 60 s. Where each participant tries to put as many balls into the basketball hoop as possible at the free throw shot line.

4. Research procedures

The BEEF training program included 12 meetings and ended with the same free throw shooting test. The treatment is divided into several focus materials, namely three focus meetings to train balance, one focus meeting to train vision, two focus meetings to train elbow, two focus meetings to train follow throws, and the rest is overall exercise/coordination and variation. In this study, the population used was extracurricular basketball players.

5. Data analysis

The t-test was performed to analyze the players' movement records; the movements were repeated 3 times in different situations. The value used for processing was the highest value of the three repetitions of the test. Statistical analysis was performed using SPSS version 20 with a significance level of $P < 0.05$.

Results

After the data is obtained, it is then processed using a predetermined formula, namely the formula for calculating the average, standard deviation and significance test with the t-test approach. Processing is done so that the data obtained has meaning.

Table 1. The Average and Standard Deviation of the Free Throw Shooting Test

Test period	N	Average	Deviation
Pretest	22	9.40	2.19
Posttest	22	11.09	2.35

Table 1 shows that the average *pretest* results of the students who participated in the basketball extracurricular activities at the Pasundan 2 Cimahi High School were 9.40, and the standard deviation was 2.19. For the *posttest*, the average results of students who participated in the basketball extracurricular activities at the Pasundan 2 Cimahi High School were 11.09, and the standard deviation was 2.35.

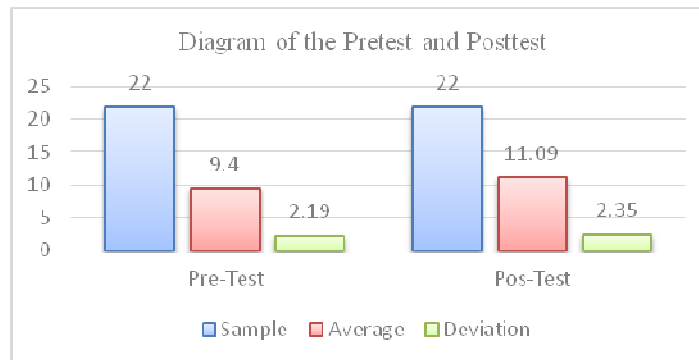


Figure 1. Diagram of the Pretest and Posttest Free Throw Shooting Test

Table 2. Calculation Results

Variable	T count	T table ($\alpha = 0.05; 20$)	Result
Shooting free throw	7.931	2.080	Significant

Table 2 shows that the T value is 2.080, which is lower than the T value of 7.931 ($2.080 < 7.931$). This result suggests that the BEEF exercise has a significant positive influence on the results of free throw shooting by extracurricular basketball players.

Discussion

Shooting is an important technique in basketball; thus, players must be very attentive when learning and training it (Raiola & D'isanto, 2016). In this study, there was a significant increase in the ability to shoot free throws using the BEEF training method. The increase was marked by an increase in *shooting* results of the participants after using the BEEF training method 12 times; shooting training should be done repeatedly to achieve an increase (Ramadhan & Irawan, 2022). This method used exercises for balance, eyes, elbow, and follow through. These four aspects greatly affect the results of shooting free throws by extracurricular basketball players at the Pasundan 2 Cimahi High School.

This method is confirmed to be suitable and successful because it is based on the principle of stages of learning skills, where the student is first introduced to the process of providing information on every aspect when performing free throw movements (Bilici & Selçuk, 2018). In the BEEF method, the delivery of material is simpler and easier to understand, which makes the participants more enthusiastic and interested in using the method (Firman & Dwi, 2018). The shooting practice process requires a better understanding of the technique, because this technique is frequently used during the match (Erčulj et al., 2010; Erčulj & Štrumbelj, 2015). The advantage of using the BEEF method is that it is efficient, effective, and easy to understand (Bayu, 2019).

The observers in the field indicate that the BEEF training method is more interesting for the students. Further research should compare groups or use other experimental groups to confirm that the training method is appropriate. In addition, this research needs a larger research sample. BEEF training provides a new experience for athletes, because they have been doing monotonous exercises that only emphasize the physical aspect. Monotonous exercises will negatively affect the participants, which makes them less interested in performing the exercises (Nguyen, 2015; Tong, 2020). The obtained results confirm that the BEEF training method has a significant positive effect on students' free throw shooting abilities. This exercise does not only focus on the physical, but rather on improving the quality of the technique, because by improving the technique the quality of movement and results will be more optimal (Wang et al., 2019).

BEEF training provides training that focuses on every stage of movement in shooting free throw basketball, starting from the fulcrum when doing it, because the footstool when shooting free throw is one of the point points in its success (Uludağ et al., 2021). Therefore, young players are always given balance training in doing their techniques, because in basketball games, especially shooting techniques, they require good body balance (Zacharakis et al., 2020). Furthermore, the vision part must also always focus on the target, although for

players who are already professional by not seeing it is possible for the ball to enter the target, but basically if it is given to athletes who are still new to the free throw movement in passing, it must have a difference in the results (Paes et al., 2022).

The position of shooting free throw is inseparable from the movement of an arm which requires isotonic movement in the elbow joint which makes the thrust of the ball resulting from the movement (Okazaki et al., 2015). That way it can be interpreted that this elbow movement also has an important role in the success of shooting free throws. The exercise applied through the BEEF method in this elbow section is to give emphasis to the athlete on how much angle is produced to produce a shot that matches the free throw distance, by providing knowledge of the magnitude of the elbow joint angle in the shooting movement has the potential to produce the perfect shot (Smajla et al., 2020).

Then every movement made must have a follow-through movement, this is a form of movement efficiency. Follow through movements in a sport provide good movement effectiveness and more perfect movement quality (Podmenik et al., 2017). Furthermore, by doing follow through movements, the quality of movements will become smoother and more beautiful (Post et al., 2010), and can also minimize the occurrence of injuries in sports (Verhoeven & M. Newell, 2016). By doing a follow through movement in the free throw shooting technique, the results of the movement will be more efficient, so that it will potentially get the ball into the basket bigger.

Based on the explanation of several important elements in carrying out free throw techniques ranging from the balance, eyes, elbow and follow through sections, it is proven that all these elements have an important role in the overall free throw shooting movement, it is hoped that by holding the principle of learning motion will be much better in doing every exercise, especially in basketball.

Conclusion

The performed data analysis, discussion, and the results of observers in the field, confirm that the BEEF training method has a significant positive influence on students' ability to shoot *free throws*; the students are more interested in using this method because the previously used training process tended to be monotonous, which made the participants feel tired. The use of BEEF exercises is also felt to be very helpful for practitioners, especially coaches to better understand the concept of learning skills in sports, where each element of the body in performing a movement has an equally vital role and function. Hopefully, coaches in extracurriculars are able and willing to always apply technical training patterns, don't just focus on physical training and strategy.

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