



PERFORMANCE OF JAVELIN THROW AMONG BACHELOR OF EDUCATION STUDENTS

Syed Kamaruzaman Syed Ali¹ⁱ,

Ali Abdulhusen²,

Zulakbal Abd Karim³

¹Department of Math & Science Education,
Faculty of Education, University of Malaya,
50603, Kuala Lumpur,
Malaysia

²Department of Math & Science Education,
Faculty of Education, University of Malaya,
50603, Kuala Lumpur,
Malaysia

³Faculty of Sports Science and Coaching,
Sultan Idris Education University,
Tanjong Malim, Perak,
Malaysia

Abstract:

The javelin throw sport is one of the activities to be taught to Bachelor of Education (Science Education) students in the Faculty of Education, University of Malaya. **Purpose:** The purpose of this research was to identify the performance of javelin throw among Bachelor of Education (Science Education) students. **Method:** This research used the one-short case study design. The sample involved was 48 people (Male = 12; female = 36). Before taking the javelin throw test, all students had undergone javelin throw exercises once a week. Javelin throw practices were conducted for 4 weeks only. On Week 5, male and female students took the javelin throw test. **Result:** For male students, there were 10.42% who achieved Very Low javelin throw distance score, 8.3% achieved Low javelin throw distance score, 2.08% achieved Quite High javelin throw distance score, and 4.1% achieved Very High javelin throw distance score. Whereas for female students, 29.1% achieved Very Low javelin throw distance score, 37.5% achieved Low javelin throw distance score, 8.33% achieved Quite High javelin throw distance score, and 6.25% achieved Very High javelin throw distance score. In overall, out of 48 students, only 8.33% achieved Quite High javelin throw distance score and 6.25% achieved Very High javelin throw distance score. The results of this study showed that the percentage of students with Low javelin throw distance score is higher than the percentage of students

ⁱ Correspondence: email syed@um.edu.my

with High javelin throw distance score. **Conclusions:** The results of the study showed that the performance of javelin throw among Bachelor of Education (Science Education) students needs to be enhanced by increasing the number of training sessions per week. Besides, the use of more effective javelin throw technique should be emphasized.

Keywords: performance, javelin throw, student, bachelor of education, science education

1. Introduction

Bachelor of Education (Science Education) students are those trained to become a Science Education teacher in secondary schools. They will be a Science Education teacher once they finished their four years study and graduated from the University of Malaya. Although they will be Science Education teachers in secondary school, they will also be Physical Education teachers and will teach a variety of physical activities to secondary school students. This is because the number of Physical Education teachers in secondary schools is still insufficient.

Therefore, before they graduate from the University of Malaya, they need to pass the course of Basic Physical Education and Health Education. The purpose of this course offered to Bachelor of Education (Science Education) students is to provide students with knowledge and skills of games, especially javelin sport. The lesson of javelin sport skills was taught to students for 4 weeks. In this regard, the study was conducted to see if the teaching the javelin sport skills is sufficient for students to master the skills and thus improve their performance in javelin throw.

2. Theoretical Framework

Behavioral learning theory (2019) was used as the theoretical framework for this study. The theory explains that the learning process involves repetitive actions, verbal reinforcement and incentives. During the javelin throw learning process, the students have performed several series of javelin trainings. During the training sessions, the lecturer pointed out the mistakes they had made, and the students had corrected them. The lecturer also rewarded the students so that they are more motivated to practice. One of the rewards is to score high marks if they manage to perform a javelin throw with long distance. Through these processes, students are expected to master skills in javelin throw. Students who have mastered the javelin throw skills and have practiced repeatedly will surely improve their javelin throw performance.

3. Related Studies

Javelin throw is one of the sports activities that fall under the category of track and field events (Maryniak, Kozdras, & Golinska, 2009). According to Michael Young (2007), training for track and field events is a very specific event and technical aspects need to be developed. Other sports involving throw also emphasize throw techniques. For example,

in handball sport, an important factor to be aware of when throwing the ball is the throwing technique (Wit and Elias, 1998). Therefore, to enhance the performance of javelin throw, students need to ensure that they master the technical aspects of the javelin throw sport. According to Maryniak, Kozdras & Golinska (2009), the results of javelin throw also depend on the method of throw, type and quality of javelin, run technique, weather conditions, and finally the type and level of competition. In addition, according to Michael Young (2007), exercise and training methods are also important for improving athlete's physical quality so that javelin throw performance can be improved.

Saratlija, Zagorac & Babic (2013) conducted a study on the influence of kinematic parameters on result efficiency. A total of 16 athletes were involved as the study sample. Based on the researchers' observations, it was found that the javelin release speed plays an important role, followed by the fast front support leg placing. Both these elements need to be emphasized in the javelin throw technique if they want a good javelin throw result.

Based on the kinematic analysis report of the best throws from the women's and men's javelin competitions at the 1991 world student Game in Sheffield, the possibility of two different techniques, within and between individuals, relating both to the timing of hip joint actions within the kinematic chain and the trade-off between the impulse applied to the javelin and run-up speed. In addition, the report also shows that important release parameter values assessed from the xz-plane alone differed only marginally from those three dimensions (Best, Barlett & Morriss, 2007). The findings of this report show that in performing a javelin throw, throwing technique is also important if you want good results in javelin throw. While studies by Whiting, Gregor & Halushka (1991) have shown that body segment and javelin release parameters are two important factors that can contribute to throwing performance.

Rani and Deol (2015) have conducted a study on biomechanical analysis of javelin throw. The purpose of the study was to investigate the relationships between the throw distance and the kinematic parameter of javelin throw to clarify the individuality of the throwing movement of Punjabi University Patiala javelin throwers. A total of five inter-university level male javelin throwers were selected as subjects for the study. The age of subject ranged between 18 to 25 years. The results show that the selected projection angle, linear velocity of elbow joint variables of technique in javelin throw have significant relationship with performance of javelin throw with technique. In addition to having significant relationships, these findings also indicate that the technical aspects are also important in the javelin throw.

Based on the results of previous studies, the technical aspects are important to develop if you want to improve javelin throw performance among university students. To develop this technical aspect, teachers or lecturers need to make sure these javelin throw techniques are taught to their students.

4. Methodology

This research used the research design of “One Short Case Study” (Diagram 1). In the one-shot case study design, a single group is exposed to a treatment or event and a dependent variable is subsequently observed (measured) in order to assess the effect of the treatment (Fraenkal & Wallen, 2008).

A total of 48 first year Bachelor of Education (Science Education) students were involved in this research. The sample consisted of 36 female students and 12 male students. They are between 19 to 20 years old. The sample was selected based on the intact sampling method, which is a sample of all students of the PIX 1002 – Basic Physical Education and Health Education course consisting of 48 people.

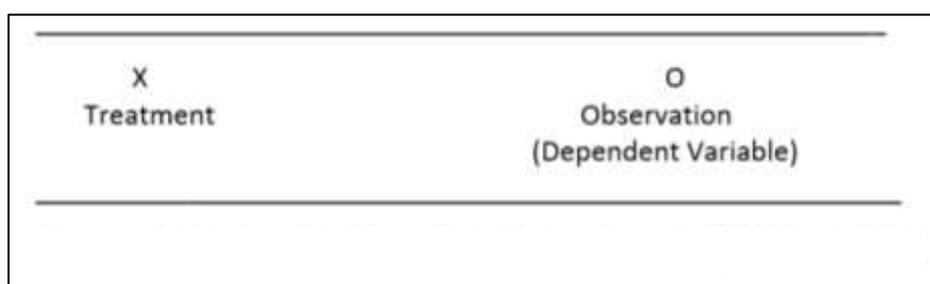


Diagram 1: The One-shot Case Study Design (Fraenkel and Wallen, 2008)

4.1 Conceptual Framework

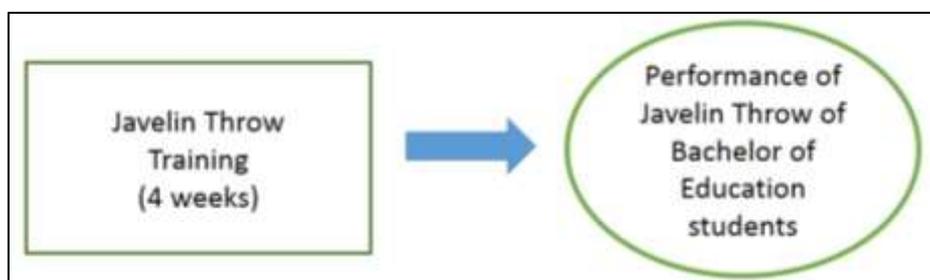


Diagram 2: The Conceptual Framework for the Performance of Bachelor of Education Students

Diagram 2 shows the conceptual framework for the study of javelin throw performance among Bachelor of Education (Science Education) students. This research has two variables: dependent and independent variables. The dependent variable is the javelin throw performance and the non-dependent variable is the 4-weeks javelin throw skill training. Prior to taking the javelin throw test, the students were given 4 weeks of javelin throw skills training. The students take the javelin throw test on week 5.

4.2 Javelin Throw Testing Procedure

Prior to taking the javelin throw test, the student had undergone javelin throw basic skills training once a week. The training lasted for 4 weeks as they had to learn other basic game skills. The javelin throw test was conducted in the field, which is in the field of

javelin throw. Each student will perform 3 times of javelin throw. The farthest throw distance will be taken as the test score. Next, the test scores will be determined as Very High, High, Quite High, Low and Very Low based on Tables 1 and 2 below.

Table 1: Distance Interpretation of Javelin Throw

Distance of Javelin Throw (meter)	Interpretation
8.47m to 12.43m	Very Low
12.44m to 16.40m	Low
16.41m to 20.37m	Quite High
20.38m to 24.34m	High
24.35m to 28.31m	Very High

Based on Table 1 above, the distance of javelin throw which is between 24.35m to 28.31m is interpreted as Very High, the distance of 20.38m to 24.34m is interpreted as High, the distance of 16.41m to 20.37m is interpreted as Quite High, the distance of 12.44m to 16.40m is interpreted as Low, while the distance of 8.47 m to 12.43m is interpreted as Very Low.

5. Research Findings

Table 2 shows the findings of the javelin throw performance of Bachelor of Education (Science Education) students. For male students, there were 10.42% who achieved Very Low javelin throw distance score, 8.3% achieved Low javelin throw distance score, 2.08% achieved Quite High javelin throw distance score, and 4.1% achieved Very High javelin throw distance score. Whereas for female students, 29.1% achieved Very Low javelin throw distance score, 37.5% achieved Low javelin throw distance score, 8.33% achieved Quite High javelin throw distance score, and 6.25% achieved Very High javelin throw distance score. In overall, out of 48 students, only 8.33% achieved Quite High javelin throw distance score and 6.25% achieved Very High javelin throw distance score. The results of this study showed that the percentage of students with Low javelin throw distance score is higher than the percentage of students with High javelin throw distance score.

Table 2: Performance of Javelin Throw
among Bachelor of Education Students (Science Education)

Gender	1	2	3	4	5	Total
Male	5(10.42%)	4(8.3%)	1(2.08%)	0	2(4.17%)	12
Female	14(29.17%)	18(37.5%)	3(6.25%)	0	1(2.08%)	36
Total	19 (39.58%)	22(45.83)	4(8.33%)	0	3 (6.25%)	48

1-Very Low; 2-Low; 3-Quite High; 4-High; 5-Very High

6. Discussions and Conclusion

This study aimed to identify the performance of javelin throw among first-year students in the Bachelor of Education (Science Education) program. Before entering university, they had never been exposed to the sport of javelin throw. They were taught how to throw javelin properly during the first year of the Bachelor of Education (Science Education) program. Based on the results of male students in the study, it was found that the students with low distance score were more than students with high distance score. The results of this study show that the majority of male students has low javelin throw performance. Similarly, the results of female students in the study found that students with low distance score were more than students with high distance score. The results of this study also indicate that the majority of female students has low javelin throw performance. The results of javelin throw performance for both male and female students were low, probably due to insufficient training, which is only once a week for 4 weeks. In addition, the students had no prior exposure to javelin throw sport before entering the university. Moreover, they may not have had sufficient exposure to the javelin throw technique before this. After all, learning a good throw technique takes a while to practice. According to Michael Young (2007), training for field events including javelin throw is a very specific event and technical aspects need to be developed. In addition, exercise and training methods are also important for improving athlete's physical quality so that javelin throw performance can be improved (Michael Young, 2007). Whiting, Gregor & Halushka (1991), on the other hand, state that body segment and javelin release parameters are two important factors that can contribute to throwing performance. In this regard, it is clear that in order to achieve a good javelin throw performance among the students, many aspects need to be developed and it will take time to practice.

6.1 Implications of Research

This study involved first year Bachelor of Education (Science Education) program students. In the first year, they were only exposed to basic javelin throw skills once a week. This javelin throw exercise was conducted for 4 weeks. Based on the research findings, it was found that the performance of javelin throw among first-year students of Bachelor of Education (Science Education) program was at a low level. Therefore, to improve the performance of javelin throw among Bachelor of Education (Science Education) students, the frequency of once a week training in 4 weeks is not sufficient. Javelin throw trainings should be increased to at least 3 to 5 times a week. Subsequently, training should be conducted for at least 8 to 12 weeks. In this regard, it is proposed that the implementation of Physical Education courses at the university be given sufficient time to allow students to practice javelin throw. In addition, it is also hoped that the students have received early exposure of javelin throw sport at the secondary school level. If they have had early exposure to javelin throw sport at the secondary school level, it will facilitate the process of teaching javelin throw at the university level. Otherwise, Physical Education lecturers will have to teach them about the basic skills of javelin throw in university.

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