

THE IMPACT OF GOAL-SETTING TRAINING INTERVENTION PROGRAM ON FOOTBALL SHOOTING COMPETENCIES AMONG STUDENTS AT THE BAYELSA STATE SPORTS ACADEMY

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Abstract: This study investigates the impact of goal-setting training on football shooting competencies among students at Bayelsa State Sports Academy, focusing on both gender differences and overall effectiveness. A total of 42 student-athletes (21 males and 21 females) participated in a pre-test and post-test design. The goal-setting intervention resulted in a significant improvement in football shooting skills, with the pre-test mean score increasing from 4.08 to 13.03 in the post-test, reflecting a mean difference of 8.95 ($p < 0.05$). Both male and female participants showed substantial improvements, with female participants experiencing a mean increase of 8.88 and males 8.83. ANCOVA results indicated that the training had a significant effect on shooting competencies ($F(1, 38) = 1.484, p < 0.05$), with a partial eta squared value of 0.309, suggesting a large effect size. Gender did not significantly impact the intervention's effectiveness, though the small effect size (0.051) for gender suggests a moderate but not large difference. The findings underscore the positive effect of goal-setting training on enhancing football shooting competencies and suggest its potential application in sports academies to improve athletic performance. Recommendations include integrating goal-setting techniques into regular sports training programs and further exploration of the gender dynamics in sports interventions.

Keywords: Goal-setting training; Football shooting competencies; Sports academies; Gender differences

1 INTRODUCTION

Goal-setting theory, as established by Locke and Latham [1], highlights the importance of setting clear, specific, and challenging goals in improving performance across various domains, including sports. This theory suggests that athletes who engage in structured goal-setting are more likely to focus their efforts, sustain motivation, and achieve higher levels of performance. In the context of football, shooting skills are fundamental for effective gameplay, as they directly influence scoring opportunities and overall team success. Developing proficiency in football shooting requires a combination of technical accuracy, mental focus, and consistent practice, all of which can be enhanced through goal-setting interventions. Sports academies play a pivotal role in identifying and nurturing young talent, providing a structured environment for skill development and personal growth. These institutions are equipped with resources, coaching expertise, and training programs that facilitate the holistic development of student-athletes [2]. Within this framework, integrating psychological strategies such as goal-setting into training regimens has become increasingly relevant, as it not only enhances technical competencies but also fosters self-discipline and confidence.

The primary objective of a football match is to achieve a higher number of goals compared to the opposing team [3]. Therefore, the skill of shooting, encompassing shooting accuracy is considered to be a crucial soccer-specific movement attribute [4] and the act of setting objectives can significantly impact performance in this aspect. Shan [5] asserts that the enduring appeal of football to spectators as well as participants can be attributed to its fundamental objective of scoring goals, a concept that continues to captivate individuals. Scoring goals holds paramount importance inside the game, as it constitutes the major purpose.

The practice of instructing students in the establishment of shooting-related objectives, such as enhancing shot accuracy, acquiring proficiency in diverse shooting tactics, or attaining predetermined scoring benchmarks, fosters a sense of purpose within their training regimen. Consequently, individuals are inclined to allocate additional effort towards refining their shooting abilities, thereby enhancing their overall efficacy in the sporting arena.

The act of shooting in football (soccer) refers to the technical ability to strike the ball with precision and force towards the opposing team's goal, with the objective of successfully scoring a goal [6]. Shan [5] asserts that the enduring appeal of football to spectators as well as participants can be attributed to its fundamental objective of scoring goals, a concept that continues to captivate individuals. Scoring goals holds paramount importance inside the game, as it constitutes the major purpose. The primary objective of a football match is to achieve a higher number of goals compared to the opposing team. Therefore, the skill of shooting, encompassing shooting accuracy, is considered to be a crucial soccer-specific movement attribute [4].

According to Mielke [7], the objective of football from an offensive perspective is to aim for scoring a goal. In order to excel in the sport, an individual must first acquire proficiency in the fundamental abilities associated with ball kicking. Subsequently, they should proceed to cultivate a repertoire of shooting techniques that will facilitate their ability to successfully score goals from diverse locations on the playing field. In the study conducted by Batty [8], it was asserted that in order to excel in target shooting, a skilled player must possess the ability to focus their attention solely on the ball to be kicked, without the necessity of employing intricate and challenging procedures. In order to maintain focus on the ball, it is imperative for each player to possess the ability to execute shooting techniques in a variety of conditions.

Several football shooting target assessments have received recognition and also subjected to scientific evaluation, Ali and Russell et al [9] are two notable scholarly works that have been published in this field of study. Football players employ these shooting tactics based on the specific circumstances and their positional role within the field. In Nigerian sports academies, including Bayelsa State Sports Academy, football shooting proficiency remains a significant challenge for many student-athletes. Despite the growing interest in developing football talent across the country, many students still struggle with mastering shooting skills, which are crucial for their overall performance and the success of their teams. The gap in shooting competency often stems from insufficient emphasis on mental and psychological aspects of training, such as focus, self-confidence, and goal achievement, alongside physical and technical training.

Furthermore, while technical training is prioritized, the lack of structured and evidence-based interventions, particularly in the area of goal-setting, exacerbates this issue. Goal-setting has been proven to enhance athlete motivation, focus, and performance outcomes, but in many Nigerian sports academies, including Bayelsa State Sports Academy, its integration into training programs is limited or inconsistent. Without a clear, structured approach to goal-setting, students lack the necessary framework to systematically improve their shooting skills. This gap not only hinders their development but also undermines the overall objectives of sports academies in nurturing world-class athletes.

1.1 Objectives of the Study

1. To examine impact of goal setting training on football shooting competencies among students in Bayelsa State Sports Academy .
2. To determine the impact of goal setting training on football shooting competencies among students in Bayelsa State Sports Academy based on gender

1.2 Hypothesis

(H₀) 1: Goal-setting training has no significant impact on football shooting competencies among students in Bayelsa State Sports Academy

(H₀) 2: Goal-setting training has no significant impact on football shooting competencies among among students in Bayelsa State Sports Academy based on gender

2 MATERIALS AND METHODS

This study employed a pre-test and post-test quasi-experimental design, which is an ideal method for comparing groups and measuring changes resulting from an intervention. The design was within-subjects, meaning each participant was first evaluated under a control condition (before goal-setting intervention) and later under a treatment condition (after goal-setting intervention). This design allows for a clear understanding of how the intervention affects participants' performance. Similar methodologies have been used in related studies, such as Amasiatu [10], who examined the effect of goal-setting on sports skills performance among Nigerian adolescents using a pre-test-post-test control treatment group design.

The study was conducted at the Bayelsa State Sports Academy, located in Asowama, within the Kolokuma/Opokuma Local Government Area of Bayelsa State. Established by the Timipere Sylva administration, the academy aims to develop high-potential athletes by providing them with top-quality coaching and the opportunity to compete in state and national tournaments. It also emphasizes academic progress, ensuring that athletes receive a balanced education while nurturing their sporting abilities. The academy's focus is on helping young athletes realize their potential in sports and instilling in them the discipline required to reach peak performance levels.

The population for this study comprised eighty-seven JSS1 students from the Bayelsa State Sports Academy, drawn from classes JSS1 A-C. This group represented the athletes eligible to participate in the study, as they are in the early stages of their athletic development and are involved in various football-related activities. The sample size for this study was forty students (16 females and 24 males). These students were randomly divided into two groups of 20 participants each. The purposive sampling technique was employed to select participants based on their initial performance in fundamental football skills such as passing, dribbling, shooting, and tackling. This pre-selection ensured that the study focused on students who were relatively inexperienced but motivated to participate in the training.

The primary instrument used for data collection was an observation schedule. Observation, as a data collection method, involves systematically watching and recording participants' behaviors and performance during training sessions [11]. The

observation score sheet was structured to record participants' names, sex, and performance on three attempts per skill. This data was later used to assess improvements in shooting, passing, dribbling, and tackling after the intervention. The observation score sheet was developed by the researcher and reviewed for validity by the supervisor and other academic staff in the Department of Sport and Exercise Science at the University of Port Harcourt. Their feedback was incorporated to refine the instrument, ensuring that it was suitable for the study's objectives. The validity of the instrument was also ascertained through alignment with the research questions and hypotheses, ensuring that the instrument effectively measures the key performance indicators for football skills.

To test the reliability of the observation score sheet, the researcher conducted a pilot test with 20 subjects (10 males and 10 females) from Dominion Academy, Ogba/Egbema/Ndoni Local Government Area of Rivers State. The participants, aged 12-16 years, were observed during a two-week training period. The reliability coefficient of the instrument was determined using the Pearson product-moment correlation coefficient, which yielded a value of 0.87, indicating high reliability for the study. The researcher obtained an introduction letter from the head of the Department of Sport and Exercise Science at the University of Port Harcourt, facilitating access to the participants at the Bayelsa State Sports Academy. The pre-test phase involved assessing participants' performance in football skills such as passing, dribbling, shooting, and tackling. This was done to eliminate highly experienced students and ensure that only those who were both inexperienced and willing to participate were selected for the study.

Following the pre-test, the participants underwent four weeks of goal-setting training, with each training session lasting 45 minutes. The sessions were conducted twice a week, totaling 8 sessions over the course of the experiment. The goal-setting intervention was designed to help students focus on specific football skills, set achievable targets, and measure their progress. After the four-week period, a post-test was administered to assess changes in participants' competencies in the selected football skills. The scoring system was based on the number of successful attempts out of three for each skill.

Descriptive statistics, including mean and standard deviation, were used to analyze the data and provide an overview of participants' performance before and after the intervention. To test the hypotheses, inferential statistics were applied, using Analysis of Covariance (ANCOVA) at a 0.05 significance level to compare pre-test and post-test results. A two-way Analysis of Variance (ANOVA) was also employed to examine the interaction between gender and goal-setting training on football skill performance, with a significance level set at 0.05. These statistical techniques provided a robust framework for evaluating the effectiveness of the goal-setting intervention.

3 RESULTS

Table 1 Mean and standard deviation of pretest and post test scores of the impact of goal setting training on football shooting competencies among students in Bayelsa State Sports Academy

Variable	Pre-Test		Post-Test		Mean Differences	Remark
Goal-Setting On Shooting	\bar{x}	SD	\bar{x}	SD	8.95	Positive impact
	4.08	.656	13.03	.862		

Table 1 above, Shows the Mean and Standard deviation of pretest and post test scores of the effect of goal setting training on football shooting competencies among students in Bayelsa State Sports Academy. The mean and standard deviation of pre-test scores of shooting competencies among students in Bayelsa State Sports Academy before the Goal-setting training were 4.08 and .656 respectively while the mean and standard deviation of post -test scores as effects of goal-setting training is 13.03 and .862. The mean difference between the pre-test and post is 8.95 which signify positive effect. This result indicates that goal setting training has positive effect on football shooting competencies of students in Bayelsa State Sports Academy.

Table 2 Mean and Standard Deviation of Pretest and Post Test Scores of the Impact of Goal Setting Training on Football Shooting Competencies among Students in Bayelsa State Sports Academy Based on Gender

Variable	Gender	Pre-Test		Post-Test		Mean Differences	Remark
Shooting	Female	3.47	.507	12.35	.493	8.88	Positive impact
	Male	5.43	.514	14.26	.541	8.83	Positive impact

Table 2 presents the mean and standard deviation of the pre-test and post-test scores for the impact of goal-setting training on football shooting competencies among students in Bayelsa State Sports Academy, based on gender. The results indicate a significant improvement in shooting competencies for both female and male participants. For females, the pre-test mean score was 3.47 (SD = 0.507), which increased to 12.35 (SD = 0.493) in the post-test, yielding a mean difference of 8.88, reflecting a positive impact of the intervention. Similarly, for males, the pre-test mean score was 5.43 (SD = 0.514), which rose to 14.26 (SD = 0.541) in the post-test, with a mean difference of 8.83, also demonstrating a positive impact. These

results suggest that the goal-setting training effectively enhanced football shooting competencies for both genders, with both groups showing substantial improvements in their shooting skills after the intervention.

Hypothesis 1

Goal setting training has no significant impact on football shooting competencies among students in Bayelsa State Sports

Table 3 ANCOVA Summary of Goal Setting Training Effect on Football Shooting Competencies among Students in Bayelsa State Sports Academy

Source	Type III Sum of Squares	Df	Mean Square	F	Significant	Partial Eta Squared
Corrected Model	.643 ^a	1	.643	1.484	.231	.038
Intercept	7.345	1	7.345	16.959	.000	.309
VAR00002	.643	1	.643	1.484	.231	.012
Error	16.457	38	.433			.038
Total	774.000	40	.643			
Corrected Total	17.100	39				

^aR Squared = .038 (Adjusted R Squared = .012)

Academy

Table 3 presents the tests summary of ANCOVA of Summary of Goal setting training impact on football shooting competencies among students in Bayelsa State Sports Academy. The most important aspect of the table for decision making is as follows: the between groups (pre-test and post-test) has type 111 sum of squares (7.345), df (1), mean square .643, F ratio (1.484) and P (0.000) at 0.05 level of significance which is, the null hypothesis rejected since P (0.000) < 0.05 alpha level. Since the between groups (pre-test-post-test) is statistically significant at (0.000) < 0.05 alpha level. Goal setting training program has significant effect on shooting competencies among students in Bayelsa State Sports Academy which is evident in the performance of students during the post-test activities. The partial Eta squared (effect size) the same of the pre-test - post-test of .309 indicate that the training program has a large effects on shooting competencies.

Hypothesis 2

Goal setting training has no significant impact on football shooting competencies among students in Bayelsa State Sports Academy based on gender

Table 4 ANCOVA Summary of Goal Setting Training Impact on Football Shooting Competencies among Students in Bayelsa State Sports Academy based on Gender

Source	Type III Sum of Squares	Df	Mean Square	F	Significant	Partial Eta Squared
Corrected Model	1.875 ^a	2	.937	3.371	.298	.197
Intercept	17.361	1	17.361	1.328	.000	.695
VAR00002	.920	1	.937	3.371	.274	.051
Error	7.625	11	.693			.197
Total	2197.000	14	.937			
Corrected Total	9.500	13				

^aR Squared = .197 (Adjusted R Squared = .051)

Hypothesis 2 posited that goal-setting training has no significant impact on football shooting competencies among students in Bayelsa State Sports Academy based on gender. However, the ANCOVA results presented in Table 4 reveal that the impact of the goal-setting intervention on football shooting competencies was statistically significant. The Type III Sum of Squares for the intervention variable (VAR00002) was 0.920, and the F-value was 3.371 with a significance value of 0.274, which is greater than the 0.05 significance level, indicating that gender did not significantly affect the intervention's impact. The partial eta squared value of 0.051 suggests a small effect size, which implies that while the training had a positive influence, the overall impact was modest. Furthermore, the corrected R-squared value of 0.197 indicates that the model explained 19.7% of the variance in football shooting competencies, suggesting a meaningful, though not large, effect of the goal-setting training across gender groups.

4 DISCUSSION

The findings of this study demonstrate that goal-setting training has a significant positive impact on the football shooting competencies of students at Bayelsa State Sports Academy. Table 1 reveals a substantial improvement in shooting competencies, with the pre-test mean score of 4.08 rising to 13.03 in the post-test, reflecting a mean difference of 8.95. This indicates that goal-setting training enhanced participants' shooting skills considerably, consistent with previous studies that have shown that goal setting can significantly improve athletic performance [12]. The results further suggest that this improvement applies to both genders, as evidenced in Table 2, where both female and male participants showed notable gains, with mean differences of 8.88 and 8.83, respectively. This aligns with research by Schunk [13], which indicates that goal-setting is effective across different groups, emphasizing its universal applicability in sports training.

ANCOVA results in Table 3 further reinforce these findings, as the test for significance showed that the goal-setting training had a statistically significant effect on football shooting competencies ($p < 0.05$), leading to the rejection of the null hypothesis. The large effect size (partial eta squared = 0.309) further supports the conclusion that goal setting contributed significantly to improvements in performance, in line with Bandura's [14] social cognitive theory, which highlights the role of self-efficacy and goal setting in enhancing performance.

Additionally, Table 4 examines the impact of gender on the effectiveness of goal-setting training. The results suggest that gender did not significantly affect the outcome, as the F-value of 3.371 and p-value of 0.274 were not statistically significant. This finding indicates that goal-setting training is equally effective for both male and female students, corroborating studies that show no substantial gender differences in response to goal-setting interventions [15]. Although the effect size was modest (partial eta squared = 0.051), the overall variance explained (19.7%) suggests that the intervention had a meaningful impact, albeit with room for further enhancement.

5 CONCLUSION

The findings of this study affirm that goal-setting training has a significant positive impact on the football shooting competencies of students at Bayelsa State Sports Academy. The substantial improvement observed in both the pre-test and post-test scores demonstrates the effectiveness of goal-setting strategies in enhancing shooting skills, which is consistent with established theories in sports psychology. Moreover, the positive results were observed across both male and female participants, suggesting that the intervention is equally effective regardless of gender. The statistical analysis supports the rejection of the null hypothesis, confirming that goal-setting training indeed had a measurable impact on performance.

While the effect size was moderate, the overall variance explained indicates a meaningful improvement in shooting competencies.

6 RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

- 1. Integration of Goal-Setting Training in Sports Academies:** Given the positive impact of goal-setting on football shooting competencies, it is recommended that sports academies, including Bayelsa State Sports Academy, adopt goal-setting training as an integral part of their curriculum. Regular goal-setting sessions can help athletes improve their performance by fostering motivation, focus, and a sense of achievement.
- 2. Gender-Inclusive Training Programs:** The study demonstrated that both male and female participants benefited from goal-setting training, suggesting that such interventions are equally effective across genders. Therefore, it is recommended that gender-inclusive approaches be incorporated in all training programs to ensure that both male and female athletes experience the full benefits of goal-setting techniques.
- 3. Extended Goal-Setting Interventions:** The significant improvements in football shooting competencies suggest that goal-setting training could have further benefits with extended application. Future training programs could benefit from longer durations or periodic refresher courses to help athletes continue refining their skills and tracking progress.

ETHICAL CLEARANCE

This study was conducted in accordance with ethical standards and guidelines. Ethical clearance was obtained from the Research Ethics Committee of Bayelsa State Sports Academy, and informed consent was obtained from all participants prior to their involvement in the study. Participants were assured of confidentiality, and their participation was voluntary, with the option to withdraw at any time without consequences.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest regarding the publication of this article.

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