Enhancing Woodball Performance: Assessing the Effectiveness of the Ball Placement Jig for Beginners

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Abstract

Woodball is a skill-based game where success depends on achieving the fewest successful hits on the gate. The main factor in performance is the player's ability to consistently align and place the ball accurately. However, many players, particularly beginners, struggle with maintaining proper alignment, which negatively impacts their game. This study evaluates the effectiveness of the Ball Placement Jig, a training tool designed to improve ball alignment and placement for beginner woodball players. Woodball success relies on precise alignment and accurate ball placement, yet beginners often struggle with these skills, leading to reduced performance. Twenty participants were assessed on their ability to hit the ball through the gate under two conditions: with and without the jig. Results showed a significant improvement, with successful gate-ins rising from 12% without the jig to 51% with it. Survey feedback indicated the jig's ease of use and suitability for beginners across genders, highlighting its potential to enhance practice sessions, build player confidence, and support skill development. The findings suggest that the Ball Placement Jig is an effective tool for fostering engagement and growth in woodball, particularly for novice players.

Keywords: Woodball Training, Ball Placement Jig, Beginner Skill Development, Performance Improvement, Sports Practice Tools

1.0 Introduction

Woodball is a sport played with a wooden mallet and wooden balls which is similar to golf and has become a popular sport in Malaysia [1]. Woodball was first discovered in 1990 by Mr. Kuang-Chu Young from Taiwan [2]. While in Malaysia, woodball has been introduced by Thomas Kok in 1995 [1]. This sport requires a high concentration, accuracy, and level of skill and techniques to strike the wooden balls through a target gate using the fewest strokes [2]. The game is typically played on a grassy or clay surface, with fairways designed to facilitate both recreational play and competitive events. The player achieving the fewest successful hits wins the game [3]. As detailed by Seung Ho Chang and Jihyun Lee [4], the primary equipment for woodball includes a mallet, balls, and gates, as illustrated in Figure 1.

Mastery in woodball relies on a combination of physical skills, techniques, and strategic thinking [5], [6]. Similar to golf, essential techniques include the tee shot, chip shot, and putt, along with physical fitness, mental focus, and

tactical planning [7], [8], [9]. However, many beginner players face persistent challenges in maintaining ball placement accuracy and striking consistency. Common errors such as improper foot movement, unsteady grip, and lack of follow-through have been identified by Fajar et al. [10], while Anas et al. [11] highlight issues related to body positioning, backswing, and follow-through that hinder skill development. Additionally, Iragraha et al. [12] observed that beginners often struggle with mastering woodball techniques and suffer from reduced confidence when striking the ball.

Although prior advancements in woodball equipment have focused on improving mallet design and ball durability, there has been limited emphasis on tools that support players in achieving proper ball alignment during practice. This gap underscores the need for innovative training aids to help players, particularly beginners, enhance their alignment and accuracy, paving the way for improved performance and skill development in woodball.

Figure 1: Primary equipment for woodball consists of woodball, gate, and mallet [3]

The development of woodball training aids has progressed significantly, transitioning from basic equipment such as mallets, balls, and target gates to advanced tools aimed at enhancing players' performance. Despite these advancements, a critical gap persists in tools specifically designed to improve precise ball alignment—a key factor in achieving consistent performance. Addressing this gap is essential for supporting skill development, particularly among beginners. Table 1 presents an overview of existing training aids tailored to different skill levels. For instance, Anas et al. [11] introduced the "Swing Trainer" (Figure 2), which enhances swinging techniques for both beginner and advanced players. Wisnu et al. [13] developed the "Gating Drill" (Figure 3) to correct errors in gate-switch techniques, while Iragraha et al. [14] designed "Wood Practice" (Figure 4) to improve punch techniques and encourage frequent practice. These tools have made significant contributions to skill refinement, yet they underscore the need for innovations that specifically target ball alignment. This study aims to address this gap by evaluating the effectiveness of a novel training aid—the Ball Placement Jig—designed to improve alignment accuracy and enhance woodball performance

during practice.

Table 1: Comparison with other studies

Training Aids	Target Player	Participants
Swing Trainer [11]	Beginners and Advanced	4 experts woodball 7 athletes' beginners 9 athletes advanced
Gating Drill [13]	Advanced	10 woodball athletes
Wood Practice [14]	Beginners	20 athletes

Figure 2: Swing trainer [11]

Figure 3: Gating drill [13]

Figure 4: Wood practice [14]

Despite advancements in woodball training aids, a critical gap remains in tools specifically designed to address ball placement—a fundamental aspect often overlooked in existing equipment. Recognizing this need, the Ball Placement Jig was developed as an innovative solution to ensure consistent ball alignment. By providing players with a reliable method for precise ball placement, the jig helps refine striking techniques and enhance overall accuracy, making training sessions more effective, particularly for beginners who often struggle with proper alignment.

This study evaluates the effectiveness of the Ball Placement Jig by analysing the percentage of successful gate-ins achieved by beginner players practicing with and without the jig. Additionally, surveys and performance metrics are used to assess the tool's impact on accuracy and its potential to support skill development in woodball players. The findings aim to determine whether the Ball Placement Jig can significantly enhance training outcomes and address the current gap in woodball training aids.

2.0 Methodology

The study was conducted among members of the Muadzam Shah Woodball Club in 2024, comprising 20 active players and three coaches. The sample size included all 20 players, providing a complete census of the population. According to Cohen et al. [15], using the entire population of 20 participants ensures a margin of error of just 1%, resulting in highly reliable findings.

Participants engaged in a controlled experiment designed to evaluate the effectiveness of the Ball Placement Jig, a training aid developed by the researchers to improve consistent ball placement. Each participant attempted to hit the ball through a gate under two conditions: with the use of the Ball Placement Jig and without it. The experimental procedure was conducted at three distances—2 meters, 3 meters, and 4 meters. At each distance, participants performed three trials per method. The number of successful gate-ins for each condition was recorded, and gate-in percentages were calculated to enable comparative analysis.

The experimental process is illustrated in Figure 5, which depicts participants using the Ball Placement Jig during the trials. This methodology aimed to provide a comprehensive evaluation of the tool's impact on players' alignment and accuracy in woodball. Following the trials, participants completed a questionnaire designed to assess their perceptions of the Ball Placement Jig's usability, effectiveness, and impact on skill development. The questionnaire included 15 items rated on a 4-point Likert scale, as recommended by Busayo [16], who identified this scale as an effective tool for collecting user feedback on product experiences. The survey responses provided valuable qualitative insights to complement the quantitative gate-in data, offering a well-rounded evaluation of the jig's utility.

Figure 5: Participants using the Ball Placement Jig during the experimental procedure

The Ball Placement Jig was specifically designed to ensure consistency in ball alignment and player positioning. As shown in Figure 6, the jig allows players to place the ball accurately at the starting point before each training session. Additionally, Figure 7 illustrates the jig's design, which includes designated spaces for foot placement to guide players, ensuring proper stance and

alignment. Furthermore, the jig's structure is engineered to support a straight-line swing path, aiding players in achieving greater striking precision. These features are intended to enhance training effectiveness and support skill development in woodball players.

Figure 6: The Ball Placement Jig for woodball Innovation

Figure 7: The player's feet that fixed to the jig

3.0 Results and Discussion

The effectiveness of the Ball Placement Jig was assessed by comparing the gate-in percentages achieved by players under two conditions: with the jig and without the jig. Tables 2 and 3 present a summary of the average gate-in percentages for each participant across the three distances (2 meters, 3 meters, and 4 meters) for the respective conditions.

Table 2: Average percentage of gate-in without using the Ball Placement Jig

Distance to gate	2m	3m	4m	Average Percentage of Gate-in
Participant 1	67%	33%	0%	33%
Participant 2	0%	0%	0%	0%
Participant 3	0%	0%	0%	0%
Participant 4	33%	0%	0%	11%
Participant 5	33%	33%	0%	22%
Participant 6	33%	33%	0%	22%
Participant 7	33%	0%	0%	11%
Participant 8	33%	0%	0%	11%
Participant 9	67%	33%	33%	44%
Participant 10	0%	0%	0%	0%
Participant 11	0%	0%	0%	0%
Participant 12	33%	0%	0%	11%
Participant 13	33%	33%	0%	22%
Participant 14	33%	0%	0%	11%
Participant 15	0%	0%	0%	0%
Participant 16	33%	0%	0%	11%
Participant 17	0%	33%	33%	22%
Participant 18	0%	0%	0%	0%
Participant 19	0%	0%	0%	0%
Participant 20	33%	0%	0%	11%

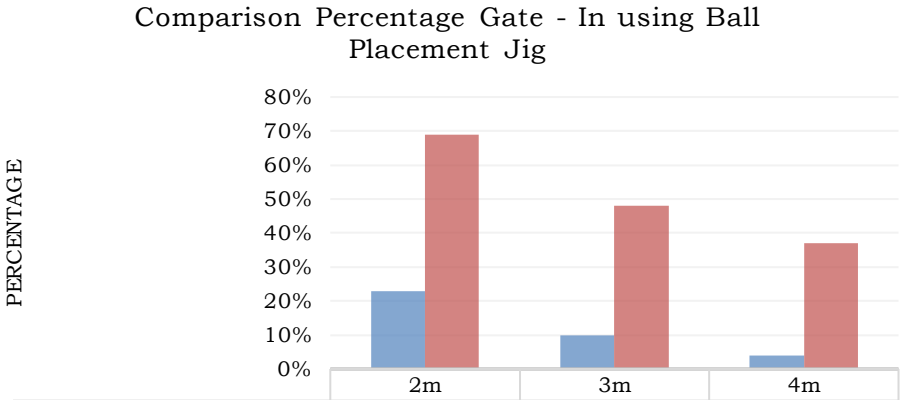
Table 3: Average percentage of gate-in using the Ball Placement Jig

Distance to gate	2m	3m	4m	Average Percentage of Gate-in
Participant 1	100%	67%	33%	67%
Participant 2	67%	33%	33%	44%
Participant 3	67%	33%	33%	44%
Participant 4	33%	33%	67%	44%
Participant 5	100%	100%	33%	78%
Participant 6	67%	33%	33%	44%
Participant 7	67%	33%	33%	44%
Participant 8	33%	33%	33%	33%
Participant 9	100%	67%	33%	67%
Participant 10	67%	33%	33%	44%
Participant 11	67%	67%	33%	56%
Participant 12	67%	33%	67%	56%
Participant 13	100%	67%	33%	67%
Participant 14	67%	33%	33%	44%
Participant 15	67%	33%	33%	44%
Participant 16	33%	33%	33%	33%
Participant 17	100%	100%	67%	89%
Participant 18	67%	33%	33%	44%
Participant 19	67%	33%	33%	44%
Participant 20	33%	33%	33%	33%

The data from Tables 2 and 3 were visualized in a graph, as shown in Figure 8. The results indicate that without using the Ball Placement Jig, the average gate-in percentages were 23% at 2 meters, 10% at 3 meters, and 4% at 4 meters, resulting in an overall average gate-in percentage of 12%.

In contrast, when players used the Ball Placement Jig, the average gate-in percentages improved significantly, reaching 69% at 2 meters, 48% at 3 meters, and 37% at 4 meters, with an overall average gate-in percentage of 51%. These results demonstrate a substantial improvement in accuracy and consistency when the Ball Placement Jig was utilized during practice.

The data highlights a significant increase in gate-in percentages when using the Ball Placement Jig, signifying a paradigm shift in woodball training aids. This innovative tool functions as a precise ball aligner, ensuring consistent placement and accuracy, thereby enabling players to refine their striking techniques with greater control and confidence.



	2m	3m	4m
Average Percentage Gate – In Without using Ball Placement Jig	23%	10%	4%
Average Percentage Gate – In Using Ball Placement Jig	69%	48%	37%

Figure 8: Comparison percentage gate-in using ball placement jig

Following the training procedures, participants completed a questionnaire comprising 15 questions rated on a 4-point Likert scale to evaluate their perceptions of the jig. The results, summarized in Table 2, reveal that the Ball Placement Jig is well-suited for beginners, achieving an average rating of 3.35 points. Participants agreed that the jig aligns well with the needs of beginner athletes and the nature of woodball. Additionally, the jig was rated as easy to use (3.45 points) and adaptable for both male and female players (3.55 points), demonstrating its user-friendly design and inclusivity.

The jig was also rated highly for its ability to enhance player skills (3.65 points) by facilitating practice across various strokes, including gating and short, medium, and long strokes (3.20 points). Moreover, it simplifies coaching by allowing coaches to effectively monitor athletes during practice sessions (3.65 points). These findings underscore the Ball Placement Jig's value as an indispensable tool for skill development and training in woodball, making it a crucial innovation for players and coaches alike.

The Ball Placement Jig for Woodball goes beyond mere convenience, offering versatility for both indoor and outdoor use (3.20 points), safety (3.45 points), and comfort (3.55 points). These features redefine the training experience, fostering a more refined and focused practice environment that accelerates skill development, enhances technique, and boosts player confidence. Additionally, with a rating of 3.45 points, the jig demonstrates its potential to actively engage players, attracting newcomers to the sport by providing a structured and efficient learning method. This innovation has the potential to contribute significantly to the growth and global popularity of woodball.

Studies evaluating the Ball Placement Jig reveal promising outcomes. It enhances training efficiency and effectiveness (3.35 points), allowing players to better understand and practice techniques (3.45 points), thereby improving

performance, control, and skill acquisition. The jig's adaptability for players increases interest in continued practice (3.45 points) and supports beginners in developing and mastering woodball skills (3.40 points). These findings highlight the jig's pivotal role in advancing the training process and fostering long-term engagement in the sport.

Table 2: Results of the survey using a 4-point Likert scale

No	Statement	Average
1	Matches the characteristics of beginner athletes and the characteristics of woodball.	3.35
2	Easy to use	3.45
3	Both male and female athletes can use it	3.55
4	Attract athletes to participate actively	3.35
5	Can be used indoors or outdoors.	3.20
6	Can be used to practice gating, short, medium and long strokes.	3.20
7	Can develop athlete abilities	3.65
8	Safe to use.	3.45
9	Makes it easier for coaches to monitor athletes who are practicing	3.55
10	There are innovations and new creations in terms of training facilities for woodball.	3.45
11	Comfortable to use.	3.55
12	Can increase interest to continue practicing.	3.45
13	Can make training efficient and effective.	3.35
14	Feel and techniques	3.45
15	Support for the development and achievement of woodball skills.	3.40

5.0 Conclusion

In conclusion, the Ball Placement Jig for woodball represents a significant advancement in the development of training tools for the sport, addressing a critical gap by prioritising accurate ball alignment—a key factor often overlooked in traditional methods. This innovative tool marks a new era for woodball, providing players of all levels with an accessible and effective means to enhance their skills and refine their techniques. By fostering improved skill progression and streamlining practice routines, the Ball Placement Jig has redefined training methodologies, offering a practical solution that enhances precision and supports more efficient, targeted practice. As research continues to demonstrate its effectiveness, the tool's potential to drive further advancements in woodball training becomes increasingly evident. Future work could explore the integration of smart technology for real-time feedback and the adaptation of the tool for various player needs. Moreover, the commercialisation of the Ball Placement Jig holds significant promise, with the potential to expand its reach globally, contributing to the wider growth of woodball as a recognised and widely practiced sport.

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Author Contributions

M. S. Suhaimi: Introduction, Methodology, Writing-Original Draft Preparation; **M. H. Salleh**: Data Curation, Validation, Supervision; **M. R. A. Rifin**: Data Curation, Reviewing and Editing.

Conflicts of Interest

The manuscript has not been published elsewhere and is not under consideration by other journals. All authors have approved the review, agree with its submission and declare no conflict of interest on the manuscript.

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