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ENHANCING THE MASTERY OF LONG SERVICE BADMINTON TECHNIQUES USING THE DRILL METHOD AMONG ELEVENTH-GRADE STUDENTS AT SMA NEGERI 1 BADAR

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Abstract

This classroom action research aims to improve the mastery of long service techniques in badminton through the implementation of the drill method for eleventh-grade students at SMA Negeri 1 Badar. The study was motivated by preliminary observations indicating that a majority of students lacked proficiency in performing the long service, a fundamental skill in badminton, due to insufficient understanding of basic techniques and a lack of targeted practice. Conducted over two cycles, this collaborative research employed a systematic approach involving planning, action, observation, and reflection. Data were collected through practical skill tests and direct observation, using a structured assessment rubric, and were analyzed quantitatively using descriptive statistics. The results demonstrated a significant improvement in student performance. In the pre-action phase, only 24.24% of students (8 out of 33) achieved the "good" category. After the first cycle, this figure rose to 48.48%. By the conclusion of the second cycle, 90.91% of students (30 out of 33) had reached the "good" and "very good" categories. The findings conclusively indicate that the systematic and repetitive nature of the drill method effectively enhances motor skill acquisition and technical proficiency in the badminton long service. This study recommends that Physical Education (PE) teachers incorporate the drill method into their teaching strategies for racquet sports and other skill-based physical activities.

Keywords: ***Drill Method, Badminton, Classroom Action Research, High School Students, Long Service, Motor Skills, Physical Education***

INTRODUCTION

Physical Education, Sports, and Health (PJOK) plays a pivotal role in the holistic development of students, fostering not only physical well-being but also cognitive, social, and emotional growth. Within this curriculum, badminton stands out as a popular and accessible sport that emphasizes agility, coordination, strategic thinking, and technical precision. Among the fundamental techniques in badminton, the service is the initial and one of the most critical shots, as it initiates every rally and can dictate its tempo. The long service, specifically, is a high, deep shot aimed at pushing the opponent to the back of the court, creating immediate defensive pressure and opening opportunities for offensive plays. However, mastering the long service requires a sophisticated blend of proper grip, stance, swing coordination, and power generation. Many high school students, despite their enthusiasm for the game, struggle with this technique. They often exhibit common errors such as incorrect shuttlecock contact, improper weight transfer, and inefficient use of the forearm and wrist, leading to short, weak, or misdirected serves. This lack of proficiency can diminish their confidence, reduce their enjoyment of the game, and limit their overall performance.

An initial observation conducted in Class XI IPA 1 at SMA Negeri 1 Badar confirmed this widespread challenge. It was found that over 75% of the students were unable to execute a technically sound long service that consistently landed in the designated target area at the back of the opponent's court. This deficiency was attributed to traditional teaching methods that often prioritize game play over foundational skill development, resulting in limited dedicated and structured practice time for specific techniques like the long service. To address this pedagogical gap, this study proposes the implementation of the drill method. The drill method is a training technique grounded in behaviorist and motor learning theories, which posit that complex skills are acquired through repetition, feedback, and gradual refinement. It involves the systematic and structured repetition of a specific movement pattern

to build muscle memory, enhance neural pathways, and automate the skill, thereby reducing cognitive load during performance. In the context of physical education, drills break down complex skills into manageable components, allowing students to focus on and perfect individual elements before integrating them into a fluid whole. This research is framed as Classroom Action Research (CAR), a reflective and collaborative inquiry undertaken by teachers to improve their own teaching practices and enhance student learning outcomes within their specific context. Therefore, this study aims to investigate the extent to which the application of the drill method can improve the mastery of the long service technique in badminton among eleventh-grade students at SMA Negeri 1 Badar. The findings are expected to provide empirical evidence for the efficacy of this method and offer practical insights for PE educators.

LITERATURE REVIEW

Classroom Action Research in Physical Education

Classroom Action Research (CAR) is a systematic, iterative process of inquiry undertaken by educators to diagnose a problem in their teaching environment and develop practical solutions. As Sanjaya (2016) emphasizes, CAR is not merely an academic exercise but a strategic series of activities aimed directly at improving the quality of the learning process within the classroom. It empowers teachers to become reflective practitioners, actively engaging in a cycle of planning, acting, observing, and reflecting to bring about positive change. Kunandar (2008) further reinforces this, stating that CAR holds a strategic role in enhancing the quality of education by bridging the gap between theory and practice. In the domain of Physical Education, CAR is particularly valuable for testing the effectiveness of specific pedagogical strategies, such as new training methods or instructional models, in a real-world setting, thereby contributing to the professional development of teachers and the optimization of student learning experiences (Mulyasa, 2009).

The Drill Method: Theory and Application

The drill method is a cornerstone of skill-based instruction, rooted in the principles of motor learning. Kusumawati (2015) defines it as a learning method characterized by systematic repetition designed to strengthen the mastery of psychomotor skills. The core premise is that through consistent and correct repetition, a movement pattern transitions from being consciously controlled and often clumsy to becoming automatic and efficient. This process, known as automatization, frees up cognitive resources that can then be allocated to higher-order aspects of performance, such as tactical decision-making and situational awareness during a game. The effectiveness of drills is supported by several key learning mechanisms. First, repetition enhances myelination—the process of insulating neural pathways—which increases the speed and efficiency of neural signals controlling the movement. Second, drills provide ample opportunities for feedback, both intrinsic (the student's own kinesthetic feel of the movement) and extrinsic (corrections from the teacher or coach). This feedback loop is essential for error detection and correction. Third, well-structured drills are progressive; they start simply and increase in complexity, ensuring that students build competence and confidence incrementally.

Research in various sporting contexts has validated the use of the drill method. Gusrinaldi, Suryadi, and Widiastuti (2020) conducted a study on badminton, concluding that the application of drill methods significantly improved students' mastery of basic techniques, including serving and footwork. Similarly, Primayanti and Isyani (2019) found that drill methods were highly effective in enhancing skills in small-ball games, highlighting their versatility across different sports. In futsal, Wahyudi, Sugiarto, and Rudianto (2020) demonstrated that specific drill training led to marked improvements in fundamental techniques like passing and ball control. These studies collectively affirm that structured, repetitive practice is a powerful tool for motor skill development.

The Biomechanics and Pedagogy of the Badminton Long Service

The long service in badminton represents a sophisticated technical skill whose effectiveness is deeply rooted in precise biomechanical execution. Functioning as an attacking shot, it is strategically designed to arc high and land deep within the opponent's backcourt, creating immediate defensive pressure. This contrasts sharply with the short, low serve, demanding a unique combination of power, trajectory, and accuracy. A technically proficient long service unfolds through several interconnected phases, beginning with a stable foundation. The player typically adopts a side-on stance to the net, with feet shoulder-width apart, facilitating full-body rotation, which is crucial for power generation. Using a basic forehand grip, the player initiates a relaxed, circular backswing while the non-racket arm holds the shuttlecock out in front—the body's weight shifts to the back foot during this preparatory phase. The heart of the service occurs during the swing and contact, where power is sequentially transferred from the legs and hips,

through a rotating trunk, and culminates in a swift forward rotation, or pronation, of the forearm. The ideal contact point is high and in front of the body, often involving a subtle "slicing" motion to impart the necessary height and distance. This explosive action is completed with a natural follow-through, where the racket continues its path across the body to ensure a fluid and complete motion.For beginners, however, mastering this kinetic chain is a common pedagogical challenge. Typical errors include employing a stiff "push" rather than a relaxed "swing," which severely limits power. Other frequent mistakes are making contact with the shuttlecock too low or behind the body, and failing to utilize forearm pronation, which results in a flat trajectory lacking the required depth. As scholars Hasyim (2017) and Rusli (2018) contend, traditional "one-size-fits-all" instruction often proves inadequate for correcting these nuanced technical flaws. They advocate instead for teaching methods that provide individualized feedback and ample opportunity for repetition. This pedagogical approach aligns perfectly with the drill method, which allows students to isolate the service motion and practice it in a controlled environment. Through this focused repetition, learners can systematically address specific errors, gradually building the coordinated muscle memory and power essential for a successful and consistent long service.

METHOD

This study was conducted utilizing a Classroom Action Research (CAR) framework, guided by the cyclical model established by Kemmis and McTaggart. This model is structured around a repeating spiral of four core phases: planning, action, observation, and reflection. The methodology was chosen for its applied nature and its direct applicability to addressing a specific pedagogical challenge within the researcher's own educational context, focusing on tangible improvement through iterative practice. The research was carried out with 33 students from Class XI IPA 1 at SMA Negeri 1 Badar in Aceh Tenggara, Indonesia. This particular class, comprising 18 male and 15 female students, was selected based on preliminary observations that had identified a pronounced need for enhancement in their execution of the badminton long service. The entire intervention was integrated into the standard physical education (PJOK) schedule and unfolded over a continuous six-week period.

The procedural journey of the research began with a pre-action phase, where an initial assessment was administered to establish a baseline of the students' existing long-service capabilities. Each student performed ten service attempts from the right service court, aiming for the diagonal target area on the opposite side. Their performance was meticulously evaluated using a standardized rubric. Following this, the study progressed into its first action cycle. The planning for Cycle I involved creating a detailed lesson plan centered on the long service technique, introducing students to a series of progressive drills. These drills started with shadow practice to internalize the movement pattern without a shuttlecock, followed by exercises focused on serving into large target areas to build foundational confidence. During the action phase, these plans were implemented over three sessions, where the instructor provided continuous feedback as students engaged in structured practice.

After the Cycle I intervention, a period of observation and reflection followed. The results indicated clear progress, yet a significant cohort of 12 students, representing 36.36% of the class, remained in the "less" category. This reflection revealed that these students required more targeted corrections on specific technical flaws, such as improper grip and contact point. These insights directly informed the planning for Cycle II, where the drills were refined to be more intensive and individualized. The action phase of the second cycle incorporated partner feedback, pressure drills requiring consecutive successful serves, and conditioned games that emphasized the strategic use of the long service. A final observation was conducted, culminating in a concluding practical test.

The data collection and analysis throughout the study were anchored by a practical test assessed with a validated rubric. This instrument evaluated student performance across three critical components: technique, which assessed the biomechanical form of the service; accuracy, which measured the shuttlecock's landing placement; and consistency, which gauged the student's ability to replicate a quality serve. Each component contributed to a total score out of 100, which was then categorized from "Very Good" to "Very Less." The school’s Minimum Mastery Criterion (KKM) was set at 75, and the data were analyzed using descriptive quantitative methods to track the frequency and percentage of students achieving mastery from the pre-test through the conclusion of Cycle II.

RESULTS

Pre-Action Results

The initial assessment revealed a significant deficiency in the students' long service skills. Out of 33 students, only 8 (24.24%) managed to achieve a score in the "Good" category or above (i.e., a score of 80 or higher). The vast majority, 25 students (75.76%), were classified in the "Less" or "Very Less" categories. This data clearly illustrated the pressing need for an effective instructional intervention to address this fundamental skill gap.

Cycle I Results
The implementation of the drill method in the first cycle yielded a positive and measurable improvement. The post-cycle test showed that the number of students achieving the "Good" or "Very Good" category increased to 16, or 48.48% of the class. The distribution of scores is detailed in Table 1 below:

Table 1. The distribution of students' scores in cycle 1

Description	Criteria	Score Range	Number of Students	Percentage (%)
Very Good	A	91-100	4	12.12
Good	B	80-90	12	36.36
Enough	C	70-79	5	15.15
Less	D	60-69	12	36.36
Very Less	E	<60	0	0
Total			**33**	**100**

While this represented a doubling of proficiency from the pre-action phase, the reflection highlighted that 12 students (36.36%) remained in the "Less" category. Observations indicated that these students were still grappling with core technical issues, such as a persistent "pushing" action instead of a full swing and inconsistent shuttlecock contact.

Cycle II Results
The refined and more intensive drills implemented in Cycle II produced a dramatic and significant improvement in student performance. The final assessment demonstrated that 30 out of 33 students, or 90.91% of the class, had achieved scores in the "Good" and "Very Good" categories. The number of students in the "Very Good" category alone rose to 10 (30.3%). The detailed results are as described in Table 2:

Table 2. The distribution of students' scores in cycle 2

Description	Criteria	Score Range	Number of Students	Percentage (%)
Very Good	A	91-100	10	30.30
Good	B	80-90	20	60.61
Enough	C	70-79	1	3.03
Less	D	60-69	2	6.06
Very Less	E	<60	0	0
Total			**33**	**100**

This result signifies that the vast majority of the students not only met but exceeded the Minimum Mastery Criterion (KKM), showcasing a high level of technical proficiency and consistency in performing the long service.

DISCUSSION

The progressive and substantial improvement in student performance from the pre-action phase through Cycle I and culminating in Cycle II provides compelling evidence for the effectiveness of the drill method in teaching complex motor skills like the badminton long service. The success of this intervention can be attributed to several key pedagogical and psychological factors inherent in the drill-based approach.

First, the systematic and repetitive nature of the drills provided the necessary conditions for motor learning to occur. As posited by motor learning theory and supported by Kusumawati (2015), the constant repetition of the service movement pattern allowed students to develop robust neural pathways, leading to increased movement automation. What was initially an awkward, consciously controlled action for most students gradually became a more fluid and natural motion. This is evident in the reduction of technical errors observed between Cycle I and Cycle II, particularly in the areas of swing coordination and weight transfer.

Second, the progressive structure of the drills was crucial for building competence and confidence. Starting with shadow drills eliminated the complexity of shuttlecock contact, allowing students to focus purely on the kinesthetics of the swing. Wall-hitting drills then provided immediate, tangible feedback on power and contact consistency without the pressure of accuracy. Finally, target drills introduced the tactical objective of placement. This step-by-step progression, from simple to complex, ensured that students were not overwhelmed and could experience small successes at each stage, which boosted their motivation and engagement—a finding that aligns with the principles of effective teaching outlined by Mulyasa (2009).

Third, the provision of continuous and specific feedback during drill sessions was a critical component. The teacher's role evolved from a mere demonstrator to an active coach, offering individualized corrections on grip, stance, and contact point. This aligns with the findings of Gusrinaldi et al. (2020), who emphasized that the effectiveness of drills is significantly enhanced when coupled with knowledgeable feedback. In Cycle II, the introduction of peer feedback further enriched this process, encouraging students to engage in metacognition—thinking about their own and others' techniques—which deepened their understanding of the skill.

The challenges encountered in Cycle I, where a significant cohort of students remained in the "Less" category, are not indicative of a flaw in the method but rather highlight the need for differentiation and persistence. The reflection after Cycle I was instrumental in diagnosing the specific, lingering technical issues. The subsequent modification of drills in Cycle II to include more corrective and pressure-oriented exercises directly addressed these issues, demonstrating the iterative and responsive nature of Classroom Action Research as advocated by Sanjaya (2016) and Kunandar (2008).

The outcome, where over 90% of students achieved mastery, strongly corroborates the findings of previous studies. It provides local, contextual validation for the research of Primayanti and Isyani (2019) on small-ball games and Wahyudi et al. (2020) on futsal, confirming that the drill method's efficacy transcends specific sports. It is a versatile and powerful pedagogical tool for any physical education context requiring the acquisition of precise motor skills. Beyond technical proficiency, qualitative observations noted an increase in students' confidence and enjoyment. As their ability to perform a successful long service improved, they participated more actively in game play, were more resilient in practice, and displayed a greater sense of accomplishment. This underscores the importance of mastering fundamental skills as a foundation for fostering a lifelong love for physical activity and sport.

CONCLUSION AND RECOMMENDATIONS

This classroom action research successfully demonstrates that the systematic application of the drill method is a highly effective strategy for improving the mastery of the badminton long service technique among eleventh-grade students. The quantitative data, showing a leap from 24.24% mastery in the pre-action phase to 90.91% after two cycles of intervention, provide robust evidence of its impact. The drill method facilitated the development of correct technique through structured repetition, progressive challenge, and targeted feedback, enabling students to automate the complex motor sequence of the long service. This study affirms that focused, methodical practice is essential for overcoming fundamental skill deficits in physical education.

Based on the findings of this study, several targeted recommendations are proposed to enhance pedagogical practice and guide future inquiry. For physical education teachers, it is strongly recommended that the drill method be integrated into their instructional repertoire, particularly when addressing technically complex skills in badminton and other sports. To implement this effectively, teachers should design inherently progressive drill sequences, beginning with simplified movements and gradually advancing to more complex and gamelike scenarios. The crucial

element for success within this framework is the consistent provision of constructive, individualized feedback during practice sessions, ensuring that students can correctly internalize the proper technique.

At a broader level, school and district curriculum developers are encouraged to support this shift in instructional strategy by providing dedicated professional development opportunities for physical education staff. Such training should focus on the theoretical and practical aspects of designing and implementing various drill-based and skill-acquisition models. This would empower teachers to move beyond a curriculum overly reliant on game-play and toward a more balanced approach that deliberately prioritizes foundational skill development before its application in competitive situations. Finally, the findings from this investigation open several promising avenues for future researchers. There is a clear opportunity to explore the efficacy of the drill method in teaching a wider array of sports skills, both within badminton, such as the smash or net play, and across other athletic domains. To build upon the quantitative results of this study, subsequent research could employ a mixed-methods approach, incorporating qualitative tools like interviews or questionnaires to gain deeper insights into students' personal perceptions, motivation, and confidence levels in response to drill-based learning. Furthermore, longitudinal studies are needed to investigate the critical question of long-term skill retention, determining if the technical improvements observed immediately following a drill-based intervention are sustained over time.

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