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## Effectiveness of Footwork and Handwork Drills in Enhancing the Female College Student's Dribbling Skills

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**ABSTRACT:** *Basketball is a widely loved sport around the globe. However, it can be a challenging sport to learn, especially for inexperienced players like female non-athlete college students. This study investigated the effectiveness of footwork and handwork drills in enhancing the dribbling skills of female college students (N=68) from a private tertiary school in Cagayan de Oro City, Philippines. A quasi-experimental design was employed to determine the effectiveness of the two interventions. The footwork and handwork drills were found to be effective in improving the participants' dribbling skills when performed regularly, such as three times a week for four consecutive weeks. The groups significantly differed in their scores ( $t=2.21$ ,  $p=.031$ ), with the footwork drills group having a higher mean than the handwork drills group. This implies that the footwork drills intervention was more effective than the handwork drills intervention in improving the students' dribbling coordination skills. These findings confirm the assumption that footwork and handwork drills could enhance the dribbling skills of female college students. The interaction between the system dynamics theory and motor learning theory helped explain the improvement in the students' dribbling skills. The findings point to student-athletes needing footwork drills to enhance their dribbling skills and lessen the possibility of injuries when participating in physical activities.*

**KEYWORDS:** dribbling skills, footwork drills, handwork drills

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### INTRODUCTION

Basketball is a sport that is deeply revered by a multitude of individuals on a global scale. Nonetheless, mastering basketball can be arduous, particularly for beginners or individuals lacking prior experience. This challenge is particularly evident for female non-athlete college students who need more basic skills, especially in dribbling. It can be challenging to enjoy the game

without mastering this foundational skill. It has the potential to reduce enthusiasm and drive, which in turn may restrict chances for engaging in physical activities and reaping associated health advantages.

Because of this, physical education plays a crucial role in developing and maintaining good motor skills, fitness, health, recreation, and safety for students. Eime et al. (2013) have highlighted the importance of active participation in particular physical education activities like sports and ballgames to achieve these goals. Additionally, Mohaimin and Kishore (2014) emphasized the broader societal impact of physical education as it aims to strengthen the learning process of children and youth to make them responsible citizens in a democratic society. Moreover, games, sports, dance, and art act as cultural bridges, connecting people worldwide (Mohaimin & Kishore, 2014).

Mastering fundamental skills is crucial in any game, and basketball is no exception. The possession of fundamental skills has given players a sense of expertise and control over the game (Mohaimin & Kishore, 2014). Basketball is a globally popular sport with the primary objective of scoring points. Basic basketball techniques include dribbling, passing, catching, and shooting into the basket (Hana & Zwierko, 2015). According to Hana and Zwierko (2015), developing fundamental skills is essential for enjoying the game. Proficient dribbling helps a player defend the ball from opponents, create distance from defenders, and advance the ball toward the hoop to score points. The level of performance in basketball dramatically relies on the player's mastery of these skills.

Dribbling is influenced by coordination, sensory acuity, speed of movement, the feeling of movement, and the movement technique itself. According to the Special Olympics Soccer Coaching Guide, the essential aspects of dribbling are balance and coordination (Phytanza et al., 2018; Pramantik & Burhaein, 2019). According to Nur and Muhammadong (2018), all movements must be precise. It must be in accordance with the planned sequence and controlled by sight. Athletes need a perfect technique for various reasons, such as learning the fundamentals and conserving energy (Nur & Muhammadong, 2018).

Moreover, dribbling is an essential skill in basketball, and external and internal factors influence its effectiveness. External factors, such as training methods, impact a player's dribbling skills, while internal factors, such as physical abilities, including strength, speed, agility, balance, endurance, power, and eye-hand coordination, play a significant role. Aydi et al. (2022) noted that neglecting any physical attributes could lead to losing the ball during dribbling, which could result in the opposing team taking possession. A player can also lose the ball due to their mistakes.

Dribbling is an offensive skill that encompasses a variety of performance forms, including dribble with a change of direction, dribble penetration, dribble hesitation, between-legs crossover, crossover dribble, inside and outside dribble, pullback crossover, behind-the-back dribble, dribble with pivoting and rotation (Gil-Arias et al., 2020). According to Hassan et al. (2022), it holds significant sway over the effectiveness of offensive strategies, especially for agile players who rely

on their dribbling abilities to elude defenders, drive toward the basket, or generate scoring chances for their team. Effective dribbling skills require physical and cognitive abilities such as coordination, ball control, quickness, and decision-making.

Dribbling skill is an essential component of basketball training programs. Thus, developing dribbling skills through drills and practice enhances a player's offensive abilities and provides a significant advantage on the court.

The researcher observed that many basketball players, particularly female non-athlete college students struggled in dribbling and controlling the ball. This would often result in high rates of turnovers and violations. This lack of basic dribbling skills significantly impacts a player's offensive performance limiting their ability to make successful shots or passes. To address this challenge, the researcher proposed an intervention program. This program provided footwork and handwork drills specifically designed to improve dribbling ability. The main objective of the intervention was to enhance the basketball skills of the students and foster a greater sense of proficiency and self-assurance in their capabilities. By improving their dribbling skills, the students would be better equipped to control the ball, create space, and score points.

This study investigated the effectiveness of the intervention in improving the dribbling skills of female non-athlete college students and identifying any underlying factors contributing to their difficulties. The purpose of this study was to use its findings to propel the advancement of tailored training strategies that are more efficient in improving the dribbling skills of basketball players.

The Dynamic System Theory (DST) and Schmidt's (1975) Theory of Motor Learning supported the argument. DST posits that motor behavior emerges from the complex interaction of multiple components, including the individual, the environment, and the task (Smith & Thelen, 2003). According to DST, motor skills are not simply a product of an individual's inherent ability but rather emerge through the continuous interaction of these various factors. The body's systems work together to develop and improve motor skills based on the difficulty of the task and the training environment (Thelen, 1989).

Conversely, Schmidt's Theory of Motor Learning emphasizes the role of practice and feedback in acquiring and refining motor skills. According to this theory, motor learning occurs through trial and error, in which individuals use feedback from their movements to adjust and refine their motor skills over time (Schmidt & Wrisberg, 2008). Repeated practice allows individuals to automate their motor skills, freeing up cognitive resources for other aspects of the task.

Schmidt and Thelen (2003) applied the DST framework to motor development theory, explaining how motor movement skills are developed and improved through the cooperation of the body's framework, the job needing to be done, and the environment in which skill execution occurs. Therefore, understanding the interaction between the individual, environment, and task is crucial for developing and improving motor skills in students.

Applying footwork and handwork drills as interventions to stimulate and train the neuromuscular systems is aligned with Dynamic Systems and Schmidt's Theory of Motor Learning. These drills aim to enhance an athlete's coordination of voluntary movements and reflex actions, which are essential for developing and improving motor skills.

In basketball, the ability to dribble is the most important fundamental skill an athlete should possess. Dribbling effectively allows athletes to control the ball, move toward the basket, and create distance between themselves and the defender. Athletes can enhance their neuromuscular system's ability to execute efficient and effective dribbling movements through footwork and handwork drills.

Dribbling skills are essential to basketball and critical for success in the game (Canuto et al., 2020). Elite players dribble the ball during 10% of live time, highlighting the significance of dribbling skills in basketball (Scanlan et al., 2015). Youth basketball coaches emphasize coaching dribbling skills as they are fundamental for in-game success (Arias, 2013). In particular, the high-speed dribble is considered a crucial skill in adult and youth basketball, providing an edge over the defender while driving to the basket or during a fast break (Conte et al., 2017). Given the importance of dribbling for offensive success, it is essential to develop effective test techniques to assess dribbling skills in basketball players.

The interventions in this study were footwork and handwork drills. Millard et al. (2020) noted that many skills like tracking, focusing, eye-hand coordination, eye-foot coordination, and peripheral awareness depend on vision. He emphasized that sports required evaluation and training for the visual system and any other body system. On the other hand, coordination was the ability to control smoothly and effectively move two or more body parts. Tests assessing hand-eye or foot-eye coordination involving activities such as throwing, catching, bouncing a ball, or striking an object, were employed. (Topend Sports, 1997).

According to Functional Work Training (2011), footwork drills focus on improving an athlete's footwork, balance, and movement efficiency. These are crucial in sports like basketball, soccer, and tennis, where quick and precise foot movements are necessary. These drills typically involve exercises that challenge an athlete's speed, quickness, and direction change, promoting their neuromuscular system's ability to adapt and adjust movements based on the task and environment.

Nevertheless, handwork drills aim to enhance an athlete's hand-eye coordination, dexterity, and overall performance with their hands, which are important in sports like basketball, football, and baseball that require precise hand movements and fine motor skills (Schmidt, 2020). These drills typically challenge athletes' ability to catch, throw, grip, and manipulate balls or weights, promoting their neuromuscular system's ability to automate motor skills through repeated practice and feedback.

As previously established, females were found to have lower dribbling skills than males in basketball. Thus, the researcher aimed to improve their dribbling skills by implementing two (2)

interventions: footwork and handwork drills. The succeeding paragraphs discuss the interventions used in this study.

The student participants in the footwork drills lined up in a single line on the court's sideline and performed jumping, running, and skipping in a minute. To allow participants to feel at ease while carrying out the drill and to keep their balance, they were permitted to use their dominant foot and hand.

The footwork drill was the first intervention used in this study. A player's ability to perform an organized series of basic movements involving various body parts significantly impacts a child's physical development. This ability was the foundation for achieving a high level of motor competence necessary for normal development, health, and athletic excellence. Children developed sports-specific and complex movement skills that enabled them to enjoy sports and physical activity when they were confident and competent with these skills (Basman, 2019).

In this drill, the student participants in the footwork drill lined up in a single line on the sideline of the court and performed jumping, running, and skipping in a minute. The supporting surface, objects, and/or other people involved in the environment in which a skill is performed are the environmental contexts (Magill, 2010). According to Magill (2010), the second general category was the function of the action, which was determined by whether or not performing a skill involved holding or using an object (object manipulation) or moving the body from one location to another (body orientation).

In this study, footwork drills such as jumping, running, and skipping were the determined skills in basketball.

*Jumping* is a common physical activity that utilizes the muscles in one's feet and legs to propel the body off a surface and into the air. Physical & Health Education Canada (2019) states that participants start by swinging their arms upward from a quarter squat position. To minimize the impact on landing, it is important to maintain a neutral head position and land softly with the knees bent and under control. It should be noted, however, that this description is based on only one trial, and the specific technique and form for jumping may vary depending on the activity or sport in question.

According to Physical & Health Education Canada (2019), *running* is a means of moving quickly on foot on land used by humans and other animals. Participants engaged their core and leaned slightly forward from their waist during the trial. They drew their shoulders away from their ears, softened them, and lifted their chest to maintain a good posture. To save energy, participants used quick and short strides. When landing, they did it gently, quietly, and with minimal impact to reduce their risk of injury. It is important to acknowledge that this was merely a single trial.

*Skipping* is a rhythmic movement that combines a long step with a hop (step-hop), first on one foot and then the other. According to Physical & Health Education Canada (2019), participants began

by taking a forward step with one foot, followed by a hop with the same leg. Using only the balls of their feet was beneficial while maintaining a raised heel. As they jumped, they pushed off their ball and advanced a short distance. Skipping helps develop balance, coordination, and cardiovascular fitness. Additionally, it's a low-impact activity, making it less likely to cause injury. The study conducted only one trial.

Fine motor skills involve small movements like those made by the hands, wrists, fingers, feet, and face. Gross motor skills delegate an enormous amount of development, for example, finished by the arms, legs, or the whole body (Magill, 2010). Engaging in activities such as jumping, leaping, hopping, running, and skipping laid a strong groundwork for honing specific abilities, enabling students to partake in a diverse range of physical pursuits. The children's FMS was evaluated using four or three KTK short-form test items: Faber's eye-hand coordination test, walking backward, moving sideways, and jumping sideways (Platvoet et al., 2018).

In like manner, the handwork drill was the second intervention used in the study. Exercising or learning new skills for visual-motor coordination had an impact on visual-motor performance and a positive impact on executive functions. In addition, children with better visual-motor coordination had fewer difficulties using or controlling a pen in a typical school setting than children with worse visual-motor coordination, particularly in the early years when writing was not yet automated (Cameron et al.,2016).

This study assessed handwork drills such as throwing, juggling, and balloon toss.

*Throwing* is a fundamental physical activity that tests an individual's hand-eye coordination. In a study conducted by Adam in 1988, a throwing test was performed where the subject threw a ball against a wall with one hand while using their non-dominant hand to catch it. The ball was then thrown back into the wall with the first hand. This test is an excellent way to evaluate a person's ability to effectively coordinate their hands and eyes. The test was performed only once.

*Juggling* is a hand-eye coordination task that involves the movement of an object, typically through the air. In this test, participants are asked to alternate hitting a crumpled piece of paper with their right and left palms upward. The objective is to keep the object in motion for as long as possible, with the height of the material being tossed at least above the head. The test was performed only once and was originally described by Adam in 1988.

The *Balloon Toss* is a drill that aims to evaluate the ability of the participants to throw and catch objects. With water inside the balloon, the participants held it out in front of them with one hand on each side of the balloon. The balloon was lowered below their waists so that it nearly touched their knees, and then both hands were raised into the air, and the balloon was let go of as it passed their nose (Adam, 1988). This test is intended for one trial only, and it provides the participants with the chance to enhance their skills in throwing or tossing a balloon straight up and catching it.

The application of biomechanics or the correct execution of movement or skill contributed to performance enhancement. Therefore, these methods could be utilized by teachers, coaches, and students who wished to excel while ensuring the skill's safety (Wuest & Bucher, 2009). Additionally, students could gain a better understanding of how to move safely, effectively, and efficiently when applying biomechanics to a skill.

This study provided female non-athlete college students' dribbling skills with two intervention programs-the footwork and handwork drills.

The objective of this study was to evaluate efficacy of footwork and handwork drills in improving the dribbling abilities of the students. Specifically, it sought to answer the following questions:

- 1) What were the two groups of participants' dribbling skills before and after interventions?
- 2) How did the participants in each group compare their dribbling skills before and after interventions?
- 3) Did the two groups of participants' dribbling skills increments significantly differ?

The study's findings provided substantial information and clearer insight into the importance of footwork and handwork drills in enhancing the dribbling skills of the students. Thus, this study was beneficial to the following sectors: (a) the result of the research work would be beneficial in the school's implementation of programs for the enhancement of the dribbling skills of the students. The study likewise could serve as a reference in enriching the curriculum considering the development of teaching practices; (b) this study may aid the teachers in better understanding the influence of skills such as coordination and agility on school learning. Results could also contribute to the design of a more efficient physical exercise program that would promote not just physical and social benefits but also students' cognition; (c) the result of this study would help students develop coordination – their ability to control the movements of their body; (d) this study would also help prospective basketball players beat or eliminate defenders by running past them with the ball, creating new passing lanes and angles, and maintaining possession and control of the ball; (e) the result of the study would help coaches in developing the skills of their athletes and helped them discover appropriate drills to enhance the skills of the athletes and become more competent in the field of sports; and (f) the study would serve as a guide for coordination exercises to improve adolescents' visual-spatial perception.

The scope of the study is focused on the effectiveness of footwork and handwork drills in enhancing the dribbling skills of the students in the academic year 2022-2023. The assessment explored how the intervention remarkably contributed to female college students' dribbling skills.

## **RESEARCH METHODOLOGY**

The research employed a quasi-experimental research design. This method was employed to determine the effectiveness of the two interventions, namely, the footwork and handwork drills, in

enhancing the dribbling skills of female college students. The use of a quasi-experimental design was deemed appropriate for the study's purpose as it allowed for the comparison of the participants' performance before and after the interventions while controlling for extraneous variables to a certain extent.

The researcher identified a group of sixty-eight (68) female college students who were not involved in any athletic activity. These students were officially enrolled in the PE 4 – Team Sport subject and had to ensure that the findings would apply to the target population. Out of the total participants, thirty-four (34) female students were assigned to undergo footwork drills, while the remaining thirty-four (34) students experienced handwork drills. The study excluded participants with medical conditions that could potentially influence the outcomes.

To screen for eligibility, the students completed a Health Appraisal Record. The researcher personally handled the participants during their physical education class at a private tertiary institution in Cagayan de Oro, province of Misamis Oriental, throughout the academic year 2022-2023.

The Johnson Basketball Dribble Test is a well-established method for evaluating a basketball player's dribbling ability, standardized by the National Association for Girls and Women in Sport (NAGWS) in 1968 (Johnson, 1934). Participants were asked to warm up for five minutes before standing on the sideline of the basketball court. They were required to cover the maximum distance possible in 30 seconds while zigzag dribbling around the four cones or obstacles placed in a straight line six feet wide. Participants started dribbling from one of the starting lines, dribbling around each cone or obstacle, and returning to the starting point. In addition, the researcher utilized various facilities and equipment to gather data and facilitate the study effectively. A stopwatch was used to monitor the time spent starting the intervention drills, while basketballs were used to count the number of zones made to dribble in 30 seconds for pre-test and post-test assessments. Finally, a basketball court was used to conduct the intervention drills, providing ample space for the participants to practice their dribbling skills.

The data were then gathered, read, and analyzed. Descriptive statistical measures such as frequency distribution, percentage, mean, and standard deviation were employed to gauge the level of basketball dribbling skills among the participants. Inferential statistics such as T-test for paired samples were utilized to determine the significant differences in the participants' basketball dribbling skills scores before and after the interventions. Inferential statistics such as T-test for independent samples were employed to determine if there was a significant difference in the basketball dribbling skills scores of the two groups of students.

## **RESULTS AND DISCUSSION**

This section presents the analyses and interpretation of data obtained from the study participants. The information is presented in tables with interpretations and implications. The presentation is organized based on the order of the problems in the Statement of the problem.



*Problem 1. What were the dribbling skills of the two groups of participants before and after the interventions?*

Table 1 presents the frequency, percentage, and mean distribution of the two groups of participants' dribbling skills before and after the interventions. The frequency and percentage of the participants with very good dribbling skills (range of 30 zones) increased from 0% to 35.29% after the footwork drills intervention and remained the same after the handwork drills intervention. The frequency and percentage of participants with good dribbling skills (range of 25 zones) increased from 0% to 38.24% after the footwork drills intervention and increased slightly to 44.12% after the handwork drills intervention.

On the other hand, the frequency and percentage of participants with fair dribbling skills (range of 20 zones) decreased from 8.82% to 14.71% after the footwork drills intervention and decreased further to 8.82% after the handwork drills. This implies that the footwork drill intervention was more effective in improving dribbling skills. Participants who received the footwork drill intervention showed a significant increase in the frequency and percentage of those with very good and good dribbling skills, while those with fair dribbling skills decreased.

Table 1. Frequency, Percentage and Mean Distribution of the Participants' Dribbling Skills before and after the Interventions

Range	Interpretation	FOOTWORK DRILLS				HANDWORK DRILLS			
		Pretest		Post Test		Pretest		Post Test	
		F	%	F	%	F	%	F	%
31 - 35 zones	Outstanding	0	0.0	4	11.76	0	0.0	1	2.94
26 - 30 zones	Very Good	0	0.0	12	35.29	0	0.00	21	61.76
21 - 25 zones	Good	0	0.00	13	38.24	2	5.88	9	26.47
16- 20 zones	Fair	3	8.82	5	14.71	14	41.18	3	8.82
11 - 15 zones	Poor	31	91.18	0	0.0	18	52.94	0	0.0
Total		34	100.0	34	100.0	34	100.0	34	100.0
Mean		11.94		25.09		15.41		26.06	
Interpretation		Poor		Excellent		Poor		Excellent	
SD		2.64		4.34		3.39		3.24	

Overall, the data show that both footwork and handwork drills were effective interventions for improving dribbling skills in basketball. However, the handwork drills were more effective as they

resulted in a higher percentage of participants achieving very good and outstanding scores. It is also worth noting that the interventions were particularly effective in improving the dribbling skills of participants who initially had poor scores.

*Problem 2. How do the participants in each group compare in their dribbling skills before and after the interventions?*

*Ho1. The two groups of participants' dribbling skills increments do not significantly differ.*

Table 2 shows the test results of the difference in the pre-test and post-test scores of the participants' dribbling skills before and after the interventions, specifically for each group that received either footwork or handwork drills. The mean is presented for the pre-test and post-test scores.

Table 2. Result of the Test of Difference in the Participants' Dribbling Skills Before and After the Interventions

	FOOTWORK DRILLS				HANDWORK DRILLS			
	Pre Test	Post Test	t	p	Pre Test	Post Test	t	p
M	11.94	25.09			15.41	26.06		
Dribbling Skills			14.08**	.000			16.67**	.000
SD	2.64	4.34			3.39	3.24		

\*\*significant at 0.01 level

The null hypothesis, which states that there is no significant difference between the dribbling skills of each group of participants before and after the interventions, can be rejected. This means that the footwork drills must have contributed to the students' improvement in their dribbling skills.

The significant increase in dribbling skill score is likely because the students are actively engaged in learning. This active engagement has sustained their interest resulting in their enhancing motor skills. Footwork training should, therefore, be an integral component of any basketball training regime to improve a player's performance and increase their agility (Arede et al., 2019). Moreover, good footwork helped the players create space for their shots, enhance their offensive skills, and improve their overall game (Song et al., 2022).

On the other hand, a significant difference was detected in the dribbling coordination skills scores of students exposed to handwork drills as indicated by their values ( $t=16.67$ ,  $p=.000$ ). This finding led to the rejection of the null hypothesis. This means handwork drills helped students increase their dribbling coordination skills score. This was made possible because the handwork drills also made the students actively engaged in the learning process, increasing their dribbling coordination

skill scores. The use of handwork drills such as balloon toss, juggling, and throwing requires the participants to develop hand-eye coordination, timing, and spatial awareness. As participants become more comfortable with these drills, they can better translate those skills to basketball dribbling coordination.

A similar result was found by Tousi et al. (2017), who examined the effects of a different type of handwork drill known as "ball-handling with the non-dominant and dominant hand" on basketball players' performance. Following an eight-week training regimen involving both the non-dominant and dominant hand, the researchers observed notable enhancements in the participants' overall proficiency in ball handling and shooting accuracy.

*Problem 3. Do the two groups of participants' dribbling skill increments significantly differ?  
Ho2. The two groups of participants' dribbling skill increments do not significantly differ.*

The outcomes of the test examining the variance in the increments of participants' dribbling coordination skills are displayed in Table 3. The findings reveal a statistically significant disparity in the average increments ( $t=2.21$ ,  $p=0.031$ ). The group exposed to footwork drills had a higher mean increment ( $M=10.65$ ). Therefore, the null hypothesis can be rejected, indicating a significant difference between the two groups' improvements in dribbling coordination skills.

**Table 3. Result of the Test of Difference in the Two Groups of Participants' Dribbling Skill Increments**

Dribbling Skills	FOOTWORK DRILLS	HANDWORK DRILLS	t	p
Mean Increment	13.15	10.65	<b>2.21*</b>	<b>.031</b>
SD	5.45	3.72		

\*significant at 0.05 level

The data further disclosed that, in general, the groups significantly differ in their scores ( $t=2.21$ ,  $p=.031$ ), with the footwork drills group having a higher mean than the handwork drills group.

This implies that the footwork drills intervention was more effective than the handwork drills intervention in improving the students' dribbling coordination skills. Similarly, Lucia et al. (2016) examined the effects of cognitive-motor training on basketball players' dribbling performance. Cognitive-motor training improved dribbling speed, agility, and decision-making abilities, suggesting that cognitive-motor training may be beneficial for enhancing overall dribbling performance.

In this study, footwork and handwork drills can improve dribbling skills in female college students; footwork drills appear particularly effective. By incorporating dynamic and engaging footwork drills into basketball training programs, coaches and trainers can help their players and teachers can help their students improve their technical proficiency and overall performance on the court.

## **SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

The following results were disclosed after the data gathered were analyzed:

1. Findings revealed that students exposed to both footwork and handwork drills group demonstrated "poor" dribbling skills before the intervention. An increase in dribbling skills to an "outstanding" level became evident, implying that students showed improvement in their dribbling skills.
2. Data showed a significant difference in the students' dribbling skills scores in both groups before and after their exposure to footwork and handwork drills. This means that both interventions effectively enhance female college students' dribbling skills.
3. Data revealed a significant difference between the participant's dribbling skills scores in both groups, indicating that footwork drills are more effective in enhancing the dribbling drills of female college students.

### **Conclusion**

The footwork and handwork drills effectively improve the participant's dribbling skills, provided that they will be performed regularly. It confirms the assumption that footwork and handwork drills can enhance dribbling skills.

The system dynamic theory explains the improvements in the students' dribbling skills after being exposed to footwork and handwork drills. The improvement in the students' dribbling skills can result from the interaction between the different components of the system, such as the students' cognitive processes, sensory input, and motor output. The footwork and handwork drills provide the students with various sensory inputs and motor demands that improve the overall coordination and control of their movements.

Additionally, the motor learning theory suggests that the improvement in the students' dribbling skills may come from the specific types of practice and feedback they received during the footwork and handwork drills. The students practice their dribbling skills in a controlled environment, receive instructor feedback, and adjust their movements accordingly.

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