2528-9705

Journal of Organizational Behavior Research

Vol.: 11, Is.: 2, Year: 2026, Pages: 132-143

https://doi.org/10.51847/rwjPbvT9P4

Available online

https://odad.org/

# Interactive Agility Program Based on Multi-Level Shiladouri Model Teaching Football Skills and Improving Speed, Agility in Preparatory Fifth-Graders

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**ABSTRACT**

*The present study aimed to design an instructional program for reactive agility based on the multi-level Shiladouri model to teach certain football skills by incorporating these skills into multi-level reactive agility exercises, and to identify the effect of this instructional program on the two attributes of speed and agility. The research population consisted of fifth-grade preparatory students for the academic year (2025/2026), totaling 225students distributed across sections. Two research groups were selected randomly: the experimental group consisted of 45students, whereas the control group consisted of 44students. The researchers used the experimental method, employing a pretest-posttest control group design, which required an experimental group and a control group in addition to equivalence tests, pretests, and posttests. The experimental group was exposed to the reactive agility program according to the multi-level Shiladouri model, whereas the control group was taught using the conventional method for agility instruction. The program consisted of (20) instructional units, at a rate of two instructional units per week for each group, and lasted (10) weeks. Speed and agility tests were then conducted. Statistical procedures included the arithmetic mean, standard deviation, independent-samples t-test, and paired-samples t-test, and SPSS was used for statistical analysis. The researchers concluded that the students in the experimental group, who learned through reactive agility according to the Shiladouri model, outperformed the students in the control group, who learned through the conventional agility instruction method, in both speed and agility.*

**Keywords:** Interactive agility program, Multi-level shiladouri, Teaching football skills, Preparatory-school students.

## Introduction

Achieving the required levels in the educational process is no longer left to chance or randomness. One of the foremost components of sound planning for the learner is defining the objective of the educational process. This is of great importance, as it is difficult for any teacher to set a target level without prior estimation of the elements constituting the educational process. These elements, even when combined, do not guarantee achievement of the intended goal unless an appropriate organizational format is specified. The level attained by the player or the team can only be achieved through carefully planned instructional programs (Darling-Hammond *et al*., 2020; Grant & Wallace, 2024). Warren Young *et al*. (2015) indicate that agility is a preplanned process consisting of a set of closed movements with a beginning and an end, prepared before performance and proceeding within a single movement pathway. In other words, the learner knows when and where to move before performing (Young *et al*., 2015; Kunie *et al*., 2025). However, as is well known, play situations in some sports are varied, rapidly changing, and unpredictable (open movements). Accordingly, a new term has recently emerged: reactive agility, which requires the player to change

Recieved: 12.01.2026 –Accepted: 28.04.2026 –Published: 24.05.2026

direction and speed rapidly during movement; that is, to change direction again while in motion so that movement corresponds to the continuing changes in surrounding stimuli, whether from the opponent or the pattern of play (Mijatovic *et al*., 2022; Osluf *et al*., 2024). Thus, the player performs unexpected movements during performance. They also add that 80% of the information reaching the brain comes through kinesthetic sensory receptors in the eye, which represent 70% of the total receptors in the human body. This contributes to the successful implementation of motor, skill-based, and tactical requirements. This requires us, as planners of the educational process, to take the concept of reactive agility into account when planning instructional situations (Young *et al*., 2015; Morgan *et al*., 2025).

Agility is highly important for all sports activities without exception. Any agility test may be administered, provided that it includes the principal requirements of agility-test components; however, reactive agility is more specialized. Reactive agility in a handball player differs in its measurement from reactive agility in a fencer. In addition, an agility test includes acceleration, deceleration, stopping, and then reacceleration, whereas a reactive agility test contains no moments of complete stopping at all; rather, it involves acceleration, deceleration, and then acceleration again (Sheppard & Young, 2006; Csep *et al*., 2024). Reactive agility training is among the forms of training that depend on speed and agility, and most importantly, on the integration between speed and agility in movement performance. Therefore, these exercises may be regarded in the same way as other composite physical qualities. Notably, the performance of such exercises enables athletes of different sports specializations to execute athletic movements with high skill; accordingly, the exercises used to develop agility differ from those used for reactive agility (Pojskic *et al*., 2018).

Reactive agility is also a process that links agility with speed, lightness of movement, and the ability to change direction unpredictably. These are open movements that occur during the course of a match, linking visual input and perception of the situation, then decision-making, then movement to perform the appropriate muscular action in response to the stimulus. Research evidence indicates that closed-skill changes in direction place substantially different stresses on the body compared with open skills (Čoh *et al*., 2018; Ganea *et al*., 2024; Raza *et al*., 2025). Reactive agility training using visual stimuli includes specific exercises to develop physical and functional capacities that help increase awareness and perception of correct motor performance. These are drills with varied movement paths characterized by excitement and variation, which influence performance and help improve and develop the technical performance of basic skills (Milanović *et al*., 2013; Ribeiro *et al*., 2024; Ming *et al*., 2025).

Football is one of the organized team sports characterized by excitement and suspense, in addition to speed, precision, and organized performance (Bojkowski & Tomczak, 2024). Therefore, advancement in the training process and its reflection on the skills of this game cannot be achieved as desired except through the use of modern training methods, including reactive agility exercises, in order to produce clear improvement in the performance of those skills (Mickevičius *et al*., 2024; Cassidy *et al*., 2025; Cuenca-Martínez *et al*., 2025). Recently, a new concept of reactive agility was introduced by the sports expert Shiladouri (2006). Given that reactive agility represents the player's ability to change body direction, speed, or position in response to an external stimulus, reactive agility according to Shiladouri represents a scientific model for simulating play situations through the player's continuous response to external stimuli (visual, auditory, or positional), enabling the player to control physical abilities according to mental and perceptual capacities (Popowczak *et al*., 2021; Hsiao *et al*., 2024; Jabin & Guthrie, 2025).

The nature of play in football is based on two matters. The first is represented by the players' individual skills and the physical abilities these require. The second is the harmony of collective work and what it requires in terms of movement speed, change of direction, occupation of playing spaces at the proper time, and anticipation of the opponent's movements (Práxedes *et al*., 2018). Any team that possesses both aspects becomes an effective team. Through observing football matches at the level of Iraqi educational directorate championships in general, and Nineveh in particular, it was found that these teams lack speed, change of direction, lightness, rapid positioning, and effective occupation of playing spaces, which has negatively affected match results and the quality of play (Anwar *et al*., 2022; Alhossan *et al*., 2024; Wong *et al*., 2025). This does not align with the modern requirements of the game, as agility alone is no longer sufficient to meet these demands. On this basis, the researchers proposed an instructional program of reactive agility according to the multi-level Shiladouri model and its effect on developing the two attributes of speed and agility among fifth-grade preparatory students. The present study designed an instructional program for reactive agility according to the multi-level Shiladouri model in football, and also to identify the effect of the instructional program for reactive agility according to the multi-level Shiladouri model on the attributes of speed and agility among fifth-grade preparatory students. To identify the effect of the instructional program for reactive agility according to the multi-level Shiladouri model on dribbling skill in relation to the attributes of speed and agility among fifth-grade preparatory students.

## Materials and Methods

### *Research Population and Sample*

The research population consisted of fifth-grade preparatory students at Al-Siddiq Preparatory School for the academic year (2025/2026), totaling 225students distributed across sections (A, B, C, D, and E). By lottery, section (B) was selected to represent the experimental group, which underwent the reactive agility program according to the multi-level Shiladouri model, and consisted of 45students. Section (D) was selected to represent the control group, which was taught according to the conventional method of agility instruction, and consisted of 44students.

### *Experimental Design*

The researchers used the pretest-posttest control group design, which required an experimental group and a control group in addition to equivalence tests, pretests, and posttests.

### *Equivalence Tests*

Equivalence tests were conducted between the students of the two research groups in order to control the variables related to the study, represented by the following variables:

Age: The ages of the students in both research groups were calculated from the date of birth until the start date of the experiment, in months, on 15/10/2025. A comparison was then made between the two groups using the t-test.

Height: The heights of the students in both research groups were measured in centimeters, and a comparison was then made between the two groups using the t-test.

Body mass: The body masses of the students in both research groups were measured in kilograms, and a comparison was then made between the two groups using the t-test. It is evident that the t-values for the variables of height, age, and body mass were not statistically significant according to the sig values, meaning that the two research groups were equivalent in the variables of height, age, and body mass **(Table 1)**.

**Table 1.** Anthropometric parameters for the physical equivalence tests of participants.

| Variables | Experimental group | Control group | t-value | sig |
|---|---|---|---|---|
| **Age** | 17.69±0.949 | 17.431±0.625 | 0.248 | 0.805 |
| **Height** | 172.578±6.43 | 172.977±8.658 | 1.505 | 0.136 |
| **Body mass** | 63.222±9.472 | 61.409±9.886 | 0.884 | 0.379 |

### *Equivalence in Physical Attributes*

These physical tests were conducted on the field of Al-Siddiq Preparatory School from (8/10/2025) to (9/10/2025). After obtaining the data, a comparison was made between the two research groups using the independent-samples t-test. It is evident that the t-values for the variables of 30 m sprint, 50 m sprint, shuttle run, and the Barrow test were not statistically significant according to the sig values, meaning that the two research groups were equivalent in these variables **(Table 2)**.

### *Equivalence in Skill Performance*

A number of skill tests for basic football skills were conducted on the field of Al-Siddiq Preparatory School from (13/10/2025) to (14/10/2025). After obtaining the data, a comparison was made between the two research groups using the independent-samples t-test.

It is evident that the t-values for the variables of circular dribbling, shuttle dribbling, Barrow dribbling, and 20 m straight dribbling were not statistically significant according to the sig values, meaning that the two research groups were equivalent in these variables **(Table 2)**.
Course instructor: The physical education teacher taught both research groups according to the prepared instructional units, at a rate of two instructional units per week, for a total of (18) units over (9) weeks, with a duration of (45) minutes for each unit. In this way, the teaching-experience factor was controlled.

**Table 2.** Equivalence in physical and skill attributes for participants.

| Tests | | Experimental group | Control group | t-value | sig |
|---|---|---|---|---|---|
| **Physical parameters** | 30 m sprint | 5.667±0.707 | 5.75±0.719 | 0.551 | 0.583 |
| | 50 m sprint | 7.444±1.056 | 7.432±1.043 | 0.057 | 0.955 |
| | Shuttle run | 9.244±1.3 | 9.159±1.328 | 0.306 | 0.760 |
| | Barrow test | 25.489±0.991 | 25.409±0.948 | 0.388 | 0.699 |
| **Skill Parameters** | 10 m circular dribbling | 10.511±1.014 | 10.477±0.976 | 0.160 | 0.873 |
| | Shuttle dribbling | 20.933±1.250 | 20.886±1.28 | 0.175 | 0.861 |
| | Barrow dribbling | 33.711±0.991 | 33.591±1.019 | 0.56 | 0.574 |
| | 20 m straight dribbling | 14.8±1.036 | 14.75±1.037 | 0.228 | 0.821 |

## *Research Tools*

### *Physical Tests*

The researcher used the following tests: 30 m sprint, shuttle run, Barrow test without the ball, and 50 m sprint (Solmell *et al*., 2024).
Skill tests: The researcher used the following tests: zigzag run with the ball, Barrow test with the ball, 10 m circular dribbling, and 20 m straight dribbling (Novak & Dvorak, 2025).

### *Equipment and Instruments*

A range of instruments was used for the equivalence tests, the pretests and posttests, and the instructional units, including the following:
small markers (40), stopwatch (1), large markers (20), camera (1), small hurdles (40), tripod board (1), wooden sticks (30), measuring tapes (2), whistles (3), electronic scales (2), flags (4), audio device (4), and light lamps (4).

## *Reactive Agility Program (Shiladouri Model)*

The researchers relied on the determinants proposed by Shiladouri, according to which reactive agility is not merely speed or movement, but a complex cognitive-motor process affected by the following factors:

1. Perceptual processing: the ability to receive visual or auditory stimuli and analyze them quickly.
2. Reaction Time: the time interval between the appearance of the stimulus and the initiation of actual movement.
3. Change of Direction: the mechanical efficiency in modifying body position and transitioning from one movement to another without losing balance.
4. Decision Making: selecting the appropriate motor response based on the changing competitive situation.
5. Environmental Factors: the nature of the stimulus (whether it is a teammate, opponent, or implement) and the degree of uncertainty in the situation.

Shiladouri believes that a true agility test must include an element of surprise, such that the movement paths are not predetermined, but instead depend on an immediate response to an external stimulus. The proposed model is as follows:

The high-intensity interaction model for reactive agility: These drills are based on reducing rest time, increasing the number of stimuli in each repetition, and progressing in difficulty:

- Introduction: (2) min
- Warm-up: (3) min
- Preparatory agility drills: (5) min
- Reactive agility stations: (28) min

1. "Changing Mirrors" Station (Mirror Drill – intensive)
   - Application: Two players stand in an area measuring 3 × 3 m. Player (A) is the leader, and player (B) is the follower.
   - Task: The follower imitates the leader's movements in all directions (forward, backward, sideways) at maximum speed.
   - Intensity element: When a whistle is heard, the two players immediately switch roles without stopping, increasing perceptual processing and physical effort.
2. "Numbered Gates" Station
   - Application: Four cones of different colors or numbers are placed at the corners of a square, and the player stands in the middle.
   - Task: The coach calls out two numbers or two colors in rapid succession (e.g., red then blue).
   - Intensity element: The player must touch the first cone and return to the center, then touch the second cone and return, with the addition of a "distracting stimulus" (such as throwing a ball to the player in the middle) to test decision-making under fatigue.
3. "The Shadow Defender" Station
   - Application: An attacking player attempts to cross a specified line, while a defending player prevents this using lateral movement only.
   - Task: The space is gradually narrowed to increase the speed of reaction.
   - Intensity element: The Drill is performed continuously for 30 seconds, then the players switch immediately with a third ready player (round system), ensuring continuity of performance under the effect of lactic acid.
4. "Compound Visual Signal Sprints" Station
   - Application: The player performs a sprint in a straight line, and upon reaching a certain point, the coach raises a signal (right, left, or stop).
   - Task: The player does not rely on the coach's voice, but on visually scanning the coach's hand or a color board.
   - Intensity element: The return from the finish point is performed as a backpedal while continuing to monitor the coach for any new signal.
   - Small game: (5) min
   - Cool-down and dismissal: (2) min

Conventional Method

1. Introduction (3) min
2. General warm-up (5) min
3. Specific warm-up (5) min
4. Educational activity (5) min
5. Practical activity (20) min
6. Small game (5) min
7. Cool-down and dismissal (2) min

### *Program Validity*

Lesson plans were prepared for each method, with two lesson plans for each skill: one plan for teaching the skill and another for linking the skill with the skills that preceded it. A sample of the lesson plans was then presented to experts specialized in teaching methods. The researcher obtained an agreement rate of (100%), and thus the lesson plans became valid for implementation.

*Pilot Study*
A pilot study of the multi-level Shiladouri reactive agility model was conducted on a sample of 20 students from section (E) at Al-Siddiq Preparatory School. The pilot study was carried out according to the lesson schedule during the period (15–19/10/2025), at a rate of two instructional units per week. This application showed that the students interacted positively with the multi-level Shiladouri reactive agility model.

*Pre-Physical Tests*
The pre-physical tests were conducted on the field of Al-Siddiq Preparatory School on (8/10/2025) and continued until (9/10/2025).

*Pre-Skill Tests*
The pre-skill tests were conducted on the field of Al-Siddiq Preparatory School on (13/10/2025) and continued until (14/10/2025).

*Application of the Experiment*
The instructional units for the focus and examination methods and the control group were applied from (15/10/2025) until (23/12/2025). The program lasted (10) weeks, at a rate of two instructional units per week, for a total of (20) instructional units, with each instructional unit lasting (45) minutes.

*Post-Physical Tests*
The post-physical tests were conducted on the field of Al-Siddiq Preparatory School on (28/12/2025) and continued until (29/12/2025).

*Post-Skill Tests*
The post-skill tests were conducted on the field of Al-Siddiq Preparatory School on (30/12/2025) and continued until (31/12/2025).

*Statistical Methods*
Arithmetic mean, standard deviation, independent-samples t-test, and paired-samples t-test were used. SPSS was employed for the statistical analysis.

## Results and Discussion

There are statistically significant differences for the students of the experimental group between the pretest and posttest in the tests of speed and agility, in favor of the posttest **(Table 3)**. The results of the t-test showed statistically significant differences in the 30 m sprint, 50 m sprint, shuttle run, and Barrow test between the pretest and posttest for the students of the experimental group, meaning that the first hypothesis is accepted. The researchers attribute this result to the preparatory reactive agility drills and the reactive agility drills according to the multi-level Shiladouri model, which were characterized by varied exercise formations and play situations, the use of speed in different directions, varied spaces, progressively graded difficulty, and diverse stimuli. This enhanced the ability of the students in the experimental group to respond visually, anticipate play movement, use speed in different directions, and control the body effectively. This led to improved physical, motor, cognitive, and perceptual capacities among the students of the experimental group in the 30 m sprint, 50 m sprint, shuttle run, and Barrow test. This is consistent with earlier studies, which indicated that reactive agility exercises bring about effective changes in movement direction and speed as a component of reactive agility through responses to visual stimuli of unknown timing (Čoh *et al*., 2018; Hassan *et al*., 2022; Miciak & Jurkiewicz, 2024; Rani & Gehrke, 2025).
There are no statistically significant differences for the students of the control group between the pretest and posttest in the tests of speed and agility.

**Table 3.** Arithmetic measures for the physical tests of the students of the experimental group

| Groups | Tests | Pretest | Posttest | t-value | sig |
|---|---|---|---|---|---|
| experimental | 30 m sprint | 5.667±0.707 | 4.6±0.72 | *14.763 | 0.0001 |
| | 50 m sprint | 7.444±1.056 | 6.089±0.763 | *6.816 | 0.0001 |
| | Shuttle run | 9.244±1.3 | 5.733±0.72 | *16.727 | 0.0001 |
| | Barrow test | 25.489±0.991 | 20.289±1.121 | *25.364 | 0.0001 |
| Control | 30 m sprint | 5.704±0.765 | 5.75±0.719 | 0.274 | 0.785 |
| | 50 m sprint | 7.432±1.043 | 7.909±0.858 | 1.446 | 0.155 |
| | Shuttle run | 9.159±1.328 | 9.341±1.346 | 0.620 | 0.538 |
| | Barrow test | 25.409±0.948 | 25.455±0.975 | 0.198 | 0.844 |

**Data expressed as mean±SD, an independent-samples t-test was used to indicate the significant differences at p-value less than 0.05.**

The results of the t-test showed no statistically significant differences in the 30 m sprint, 50 m sprint, shuttle run, and Barrow test between the pretest and posttest for the students of the control group, meaning that the second hypothesis is accepted **(Table 4)**. The researchers attribute this result to the fact that the exercises used in warm-up activities, specific preparation drills, and skill exercises lacked variation in exercise formations and play situations and did not employ speed in different directions, which limited visual response, the ability to anticipate play movement, the use of speed in different directions, and good body control. This led to a lack of improvement among the students of the control group in the 30 m sprint, 50 m sprint, shuttle run, and Barrow test. This is consistent with earlier studies, which indicated that the traditional view of agility lacks several factors, including visual perception and the ability to control the speeds used in the drills (Sheppard & Young, 2006; Paul *et al*., 2016; Iriti *et al*., 2024; Alnabulsi *et al*., 2025). There are statistically significant differences between the students of the experimental and control groups in the posttest of speed and agility, in favor of the experimental group.

**Table 4.** Arithmetic means, standard deviations, t-values, and sig values for the post-physical tests between the students of the experimental and control groups

| Tests | Experimental group | Control group | t-value | sig |
|---|---|---|---|---|
| **30 m sprint** | 4.60±0.72 | 5.75±0.719* | 14.093 | 0.0001 |
| **50 m sprint** | 6.089±0.763 | 7.909±0.858* | 10.851 | 0.0001 |
| **Shuttle run** | 5.733±0.72 | 9.341±1.346* | 15.817 | 0.0001 |
| **Barrow test** | 20.289±1.121 | 25.455±0.975* | 23.176 | 0.0001 |

**Data expressed as mean±SD, an independent-samples t-test was used to indicate the significant differences at p-value less than 0.05.**

The results of the t-test showed statistically significant differences in the 30 m sprint, 50 m sprint, shuttle run, and Barrow test between the students of the experimental group and those of the control group, in favor of the experimental group, meaning that the third hypothesis is accepted **(Table 5)**. The researchers attribute this result to the preparatory reactive agility drills and the reactive agility drills according to the multi-level Shiladouri model, which were characterized by varied exercise formations and play situations, the use of speed in different directions, varied spaces, progressively graded difficulty, and diverse stimuli. This enhanced the ability of the students in the experimental group to respond visually, anticipate play movement, use speed in different directions, and control the body effectively, thereby improving their physical, motor, cognitive, and perceptual capacities in the 30 m sprint, 50 m sprint, shuttle run, and Barrow test. In contrast, the students of the control group practiced exercises that lacked variation in formations and did not use speed in different directions, with few stimuli. This is consistent with earlier studies, which

indicated that exercises based on changes in speed and direction contribute to raising the level of performance based on the speed component (Chaabene *et al*., 2018; Liao *et al*., 2021; Jaafar *et al*., 2024; Shen & Bao, 2025).
There are statistically significant differences for the students of the experimental group between the pretest and posttest in the skill tests associated with speed and agility, in favor of the posttest **(Table 5)**. The results of the t-test showed statistically significant differences in the skill tests of circular running, shuttle run with the ball, Barrow test with the ball, and straight running with the ball between the pretest and posttest for the students of the experimental group, meaning that the fourth hypothesis is accepted. The researchers attribute this result to the preparatory reactive agility drills and the reactive agility drills according to the multi-level Shiladouri model, which were characterized by varied exercise formations and play situations, the use of speed in different directions, varied spaces, progressively graded difficulty, and diverse stimuli. This enhanced the visual response, anticipation of play movement, use of speed in different directions, and good body control among the students of the experimental group. This led to improvements in their physical, motor, cognitive, and perceptual capacities as well as their functional responses, which in turn led to the development of the students of the experimental group in the tests of circular running, shuttle run with the ball, Barrow test with the ball, and straight running with the ball. This is consistent with what Milanovic *et al*. (2013) indicated, namely that reactive agility drills using visual stimuli contribute to the development of functional capacities, leading to perceptual and visual-response improvement and thus to the ability to anticipate correct performance, which in turn improves movement lightness and bodily agility (Milanović *et al*., 2013; Uneno *et al*., 2024).
There are no statistically significant differences for the students of the control group between the pretest and posttest in the skill tests associated with speed and agility.

**Table 5.** Arithmetic measures for the skill tests of the students of the experimental and control groups

| Group | Tests | Pretest | Posttest | t-value | sig |
|---|---|---|---|---|---|
| Experimental | 10 m circular dribbling | 10.511±1.014* | 6.733±0.688 | 18.82 | 0.0001 |
| | Shuttle dribbling | 20.933±1.250* | 17.133±0.815 | 19.763 | 0.0001 |
| | Barrow dribbling | 33.711±0.991* | 30.4±1.031 | 15.738 | 0.0001 |
| | 20 m straight dribbling | 14.8±1.036* | 10.8±0.757 | 17.799 | 0.0001 |
| Control | 10 m circular dribbling | 10.477±0.976 | 10.682±1.006 | 0.932 | 0.357 |
| | Shuttle dribbling | 20.886±1.28 | 20.659±1.363 | 0.754 | 0.455 |
| | Barrow dribbling | 33.591±1.019 | 33.886±0.993 | 1.444 | 0.156 |
| | 20 m straight dribbling | 14.75±1.037 | 14.455±1.088 | 1.253 | 0.217 |

**Data expressed as mean±SD, an independent-samples t-test was used to indicate the significant differences at p-value less than 0.05.**

The results of the t-test showed no statistically significant differences in the skill tests of circular running, shuttle run with the ball, Barrow test with the ball, and straight running with the ball between the pretest and posttest for the students of the control group, meaning that the fifth hypothesis is accepted **(Table 6)**. The researchers attribute this result to the fact that the exercises used in specific preparation drills and skill exercises lacked variation in exercise formations and play situations and did not employ speed in different directions, which limited visual response, the ability to anticipate play movement, the use of speed in different directions, and good body control. This led to the lack of improvement among the students of the control group in the tests of circular running, shuttle run with the ball, Barrow test with the ball, and straight running with the ball. This is consistent with earlier studies, which indicated that the traditional view of agility lacks several factors, including visual perception and good body control during agility exercises(Paul *et al*., 2016; Spiteri *et al*., 2018).
There are statistically significant differences between the students of the experimental and control groups in the posttest of the skill tests associated with the speed and agility tests, in favor of the experimental group.

**Table 6.** Arithmetic measures for the post-skill tests between the students of the experimental and control groups

| Tests | Experimental group | Control group | t-value | sig |
|---|---|---|---|---|
| **10 m circular dribbling** | 6.733±0.688 | 10.682±1.006* | 21.656 | 0.0001 |
| **Shuttle dribbling** | 17.133±0.815 | 20.659±1.363* | 14.851 | 0.0001 |
| **Barrow dribbling** | 30.4±1.031 | 33.886±0.993* | 16.237 | 0.0001 |
| **20 m straight dribbling** | 10.8±0.757 | 14.455±1.088* | 18.429 | 0.0001 |

**Data expressed as mean±SD, an independent-samples t-test was used to indicate the significant differences at p-value less than 0.05.**

The results of the t-test showed statistically significant differences in the skill tests of circular running, shuttle run, the barrow test with the ball, and straight running with the ball in the posttests between the students of the experimental group and those of the control group, in favor of the experimental group, meaning that the sixth hypothesis is accepted. The researchers attribute this result to the preparatory reactive agility drills and the reactive agility drills according to the multi-level Shiladouri model, which were characterized by varied exercise formations and play situations, the use of speed in different directions, varied spaces, progressively graded difficulty, and diverse stimuli. This enhanced the visual response, anticipation of play movement, use of speed in different directions, and good body control among the students of the experimental group. This led to improved physical, motor, cognitive, and perceptual capacities and functional responses, which in turn led to the development of the students of the experimental group in the tests of circular running, shuttle run with the ball, Barrow test with the ball, and straight running with the ball. This is consistent with what Milanovic *et al*. (2013) indicated, namely that reactive agility drills in team sports that use visual stimuli contribute to the development of the player's functional capacities, leading to improved perception and visual response and consequently to the ability to anticipate correct performance, which in turn improves movement lightness and bodily agility (Milanović *et al*., 2013).

## Conclusion

The students of the experimental group taught according to the Shiladouri reactive agility model outperformed the students of the control group taught according to the conventional method in the tests of 30 m sprint, 50 m sprint, shuttle run, and the Barrow test. The students of the experimental group, taught according to the Shiladouri reactive agility model, outperformed the students of the control group, taught according to the conventional method, in the tests of circular running, shuttle run with the ball, Barrow test with the ball, and straight running with the ball.

**Acknowledgments:** The authors are grateful to the College of Physical Education and Sports Sciences, University of Mosul for provided support to accomplish this study.

**Conflict of Interest:** None

**Financial Support:** None

**Ethics Statement:** The study approved by the College of Physical Education and Sports Sciences, University of Mosul (Reference Code 1371 on 15 April 2026).

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