

Skill training complex with laser sensors to develop the spatial sense of the two leg movements for the fencing players

Farah Khaled Abdullah

College of Physical Education and Sports Sciences, Baghdad University, Ministry of Higher Education and Scientific Research, Iraq

Abstract

The study aims to train advancement and retreat movements according to the skills of the sport of fencing (advancing for the attack and retreating for defense and stabbing or touching and the movement of the arrow) through laser lines that give a signal (sound) if the movement was wrong, in order to develop the perceptual-kinesthetic-spatial according to the movements of the player and cohesion with the opponent and the awareness of areas Stabbing or touching his body to obtain points and to perceive the appropriate distance between the swordsman and his opponent to advance, stab or touch, as well as to perceive the distance to retreat for the purpose of defense or for numbers of attack. The new skill and mental vehicle tests are designed to measure these aspects. The research was applied to a group of young fencing sword weapon players, their number reached (10), and the training and movement were carried out on laser lines to develop the spatial perception, the training was applied for (16) training units, and the researcher concluded the development of the spatial perception of the attack and defense movements of the research sample.

Keywords: sensor, laser, perceptible, subdued

are required to work on developing them for the fencers in order to be distinguished by good preparation. The skillful aspect is very important in mastering all the skills of this sport, which the swordsman uses during training or competition in order to win over his opponent (Abdul Hadi& Abdul Karim: 2008: 19) in addition to that this aspect is related to the development of other requirements of raising special physical abilities and mental abilities, especially perceptions. Spatial mobility, as there are places in the body of the swordsman in which his touch or stabbing is obtained and

Introduction

Fencing is an ancient competitive ransom sport that is held between two players competing to win the largest number of points through kinetic performance while playing the offense by advancing and trying to stab or touch the opponent's body and defend by retreating backward (Abd Ali ,et al: 1988: 299) and performing offensive movements such as The movement of the arrow, progress and retreat is characterized by special requirements that suit its movement performance, including skill, physical, mental and physiological, and these requirements

those with specialization * were relied on to collect information and reach the research problem. A local tester was also designed for testing.

Determine the tests:

Previously, spatial sense perception tests were prepared according to the skills of progress, retreat, stabbing, touch and arrow movement. The number of tests reached (3) tests with a date:

-The first test

-Realizing the progress of two steps with the appeal within (10) seconds.

Objective: To measure awareness of the place of progress in two steps with stabbing (10) seconds.

Tools used: stopwatch (2), fencing sword, fencing court, sign, eye patch, colored tape.

Instructions and performance description:

- 1 .The laboratory stands in front of the person in the ready position.
- 2 .The distances are determined according to the testers' steps.
- 3 .Draws a line to position the front foot No. (1) and the back foot No.(2) .
- 4 .Then the laboratory advances forward two steps with each step drawing a line for the front foot, lines No. (3) and.(4)
- 5 .The laboratory makes the stab and draws a line for the position of the front foot in stabbing No.(5) .
- 6 .A blindfold is placed over the eyes of the laboratory to prevent vision.
- 7 .Give two attempts to the laboratory with two eyes open before starting the test.
8. At the start signal, the tester advances two consecutive steps, then

points are collected, noting that the stabbing movement is associated with the limiter of the distance between the swordsman and his opponent in order to perform the stabbing skill. The importance of this study stems from preparing skills training for advancement and retreating on laser lines that are monitored when the player performs these movements to develop spatial perceptions - kinematics, as the training integration leads to achieving a better level of achievement ”(Sabah Nouri et al: 2011: 46).

Through the researcher's review of previous studies that dealt with the sport of fencing, you did not find exercises that used laser lines to improve the perceptions of spatial kinematics, even though these perceptions have an influential significance in the skillful performance of fencing players, which is related to progress and retreat in addition to stabbing or touching.

-Search procedures

The experimental curriculum was used and the research sample consisted of young players with the sword weapon for the 2019-2020 sports season approved by the Iraqi Fencing Federation and who represent (Baghdad) governorate with (10) players. The tests and training were carried out at the training center for fencing in Baghdad according to the training days and hours allocated to them and under the supervision of the sub-union therein and the coaches of the teams.

The sources, previous studies, the Internet, and personal interviews of

returning two steps back to the ready position.

8. In the case of the laboratory performing the first iteration and returning to the starting point, if the back foot was placed on or behind the starting line, scores are calculated for the subsequent repetitions, but if the foot was back in front of the starting line, the scores of the subsequent attempts are not counted despite their validity.

2. The second test:

- Name of the test: Perceiving the place of progress: two steps, the first is the jump, the second is normal, and then the stabbing (15) seconds.

Objective: To measure awareness of the place of progress, two steps, the first with a jump, the second is normal, and then stabbing within (15) seconds.

Tools: stopwatch (2), fencing sword, fencing court, sign, eye patch, close-up colored tape.

Instructions and performance description:

1. The distances are determined according to the two test steps.
2. The tester stands in a ready position with the hind foot on line (1) and the front foot on line (2), then he jumps forward and draws line No. (3) then he advances a step and draws line No. (4) then performs the stabbing movement and draws the line of falling foot on Line number (5).
3. The tester returns to the readiness position from the stabbing position and returns back a normal step and draws

stabs, then returns to standby, takes two steps back. As in figure (1).

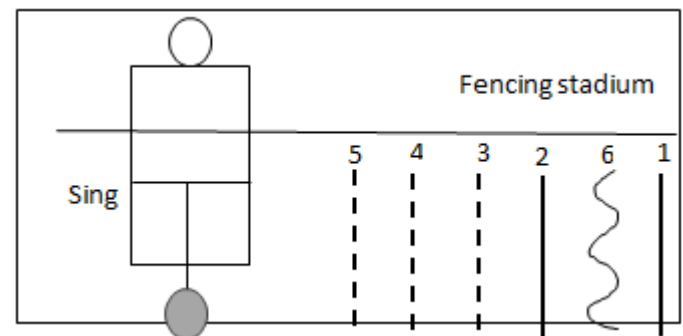
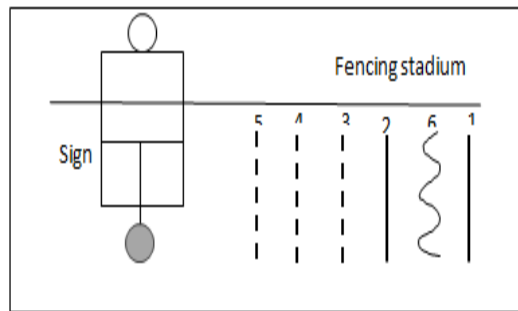


Figure1. Perception test of the place of progress in two steps with a challenge within (10) seconds

Register:

1. Progress in the first step and touching the foot of the line (3) has a (1) degree.
2. Progressing with a second step and touching the front foot, the line (4) has a (1) step
3. The stabbing against the person and the front foot touching the line (5) has a (1) degree, reaching the target, and the person touching it has (2) degree.
4. Return to the standby position by taking a step back. The back leg is on the line (6) that has (1) step.
5. Taking a second step back (the back leg on the line (1) has a (1) step.
6. Each attempt is scored for the specified period of (10) seconds.
7. It withdraws (7) scores for each complete movement performed by the laboratory, advancing two steps and stabbing and



Figure(2) A test to perceive the place of progression with two steps, the first with the jump and the second regular, then stabbing (15) seconds.

3. The third test.

-Test name: Perception of the place of touch by a step from the movement of the arrow within (15) seconds.

Objective: To measure the perception of the place of stabbing step by step from the movement of the arrow within 15 seconds.

Tools used: stopwatch (2), fencing sword - fencing stadium - sign, eye blindfold, colored adhesive tape, close.

Instructions and performance description:

1. Distances are determined according to the tester's steps:
2. The tester stands in front of the person in a ready position so that the back foot is touching line No. (1) and the front foot touches the line.(4)
3. Line (2) is placed at a distance of (30 cm) from line (4) to touch the front foot when advancing with a step.
4. The last line, line 3, is placed at a distance of (180 cm) from line (1) for the purpose of crossing the back foot when performing the movement of the arrow.

the line (6) for the hind foot, then returns to the rear one step by leaping back to the starting point of the back foot on the line (1).

4. The laboratory is given two open attempts before the test begins.
5. A blindfold is placed over the tester's eye to prevent vision.
6. When the need is signaled, the laboratory leaps forward and touches the front foot, line (3), then takes a step forward and touches the front foot, line No. (4), then stabs the person, and the front foot touches line No. (5).
7. Calculates (7) scores for each complete movement performed by the tester by advancing two steps, the first by the jump, the other is normal, and the stabbing and backward two steps, the first as usual and the other by the jump to the standby position.
8. In the event that the tester performs the first repetition and returns to the starting point, if the back foot is placed on or behind the starting line, scores are calculated for the subsequent repetitions, but if the foot returns in front of the starting line, the scores for the subsequent attempts are not counted despite their validity.

the line (3), and (0) a score for not having the hind foot reaching the line (3), and (6) scores are calculated for each complete attempt.

5. A score is given (1) for returning to the initial position and for touching the back foot to the line.(1)
6. The number of marks for the time of performing the test (15) seconds is calculated for each attempt.
7. The best attempt that has more scores will count.
8. In the event that the tester performs the first iteration and returns to the starting point, if the back foot is placed on or behind the starting line, scores are calculated for the subsequent iterations, but if the foot returns in front of the starting line, the scores for the subsequent attempts are not counted despite their validity.

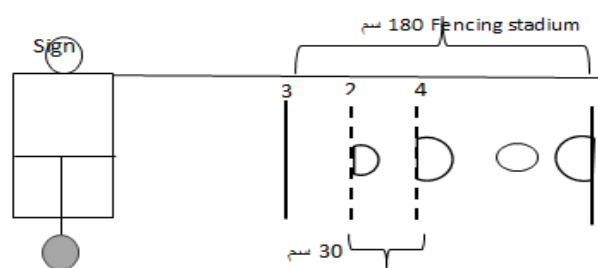
The pre-tests were conducted on 12/15/2019, after which the exercises for the movements of the two legs were applied during the movements of progress, return and stabbing on the laser lines at a rate of three units per week for a period of 6 weeks, and after completing the exercises, the post tests were conducted.

Results

Table 1:Results of differences between the pre and post measurements of the spatial sense perception tests

Test	Pear		Post		Mean	Sd	T	Sing	indication
Awareness	5.77	2.2	13.25	1.89	7.48	1.11	6.709	0.003	Ind.

5. A blindfold is placed over the eyes to prevent vision.
6. Give the experimenter two open-eyed attempts before the test begins.
7. At the start signal, the tester advances a normal step, then performs the movement of the arrow and returns to the starting point to repeat that (15) seconds.



Figure(3)The perception test demonstrates the location of touch with a step from the movement of the arrow within (15) seconds.

Register:

1. The laboratory is given two attempts for each (15) second attempt
2. A score is given (1) for the position of the front foot to go forward with a step and touch the line(2)
3. A score of (2) is given for touching the person.
4. A score is given for (1) the hind foot crossing the line (3), (1) a score for the hind foot touching

of challenge at various levels									
Realize where to progress two steps	10.89	3.1	19.45	1.65	8.56	1.89	4.512	0.011	Ind
Perception of touch location by step	21.51	5.8	35.23	2.55	13.7	2.65	5.16	0.001	Ind

df (9) and the error level 0.05

senses or incentives the meaning and the two systems specialized in this process are the sensory system and the nervous system, and the safety of these two systems and the degree of their development. They affect the perception process. " (Qasim: 1990: 92)

The perception of the sense of place and the accuracy of the stabbing of the individuals of the sample is due to the effect of training the movements of the legs and their correction according to the laser beams that alert the player to the correct position of the place of the foot when advancing and returning used, since "Perception is to give meaning to the perceptions that depend mainly on the previous experiences of the learner that play an important role In determining this meaning in terms of clarity and accuracy because the abundance of previous experiences of the individual helps him to respond quickly, and accordingly, mental processes are in fact a process of feeling, perception and thinking in

Through the above table, the results of the differences were significant and with a greater arithmetic mean than the arithmetic mean of the sample combined, and this indicates the ability of its members and their ability to perform the test better.

Movement balance is one of the most important physical abilities that improve the level of mobilization of muscular forces working in performance, which was reflected in the development and improvement of the skillful performance of the research sample and their spatial sense perception, as the perception is one of the important mental abilities that come after the process of attention and focus and is important in all skills Whose movements require a high degree of motor compatibility, especially in the sport of fencing, whose movements require compatibility between the muscle groups of the body, so sensory perception "is the first pillar of human knowledge, as it gives the different

preventing the opponent from scoring a point when he is in a defensive position.

In addition, the perception of the appropriate timing and given the characteristics of the game in general and the tools used in it imposed an urgent need for mental capabilities such as visual perception and perception of the sense of time for the correct timing in movement and choosing the appropriate angle during the position of the attack, as the dueling game is characterized by general kinematic harmony and a variety of activities that are characterized by perception of a sense of movement. Such as the compatibility between the eye and the hand or the eye, the leg and the foot, in order to perceive the location of the foot's movement when the legs move during the game. (Eileen & Salwa: 2002: 349).

Most of the movements of the game of fencing are interrelated and require a high level of concentration and perception during the performance, which requires the player to feel, think and perceive. Therefore, mental abilities play an important role in comprehending and acquiring information and recognizing the place and time to be related and the importance of perception shows the sense of place and time of the movement of his body parts and the extent of control. On changing the position of the body in proportion to the type of movement or experience, and the most important perceptual perceptions that can develop from the

general, and perception can be without feeling, as the perceptual process is based on the activity of the sensory organs. (Nizar: 1993: 170)

The balance exercises used, which were carried out according to various defensive and offensive movements with the hook weapon, gave a positive effect to the development of the spatial perception of the sample members and the player's acquisition of a sense of the spatial field of movement and it is the first mental process associated with the perception process, meaning that the feeling precedes the perception as it transmits the effects from the nerves to the senses to complete the process. Perception as "there can be no awareness without feeling, just as there can be no feeling without awareness, because perception is what explains to us the existence of feeling." (Saliba: 1990: 56)

The dueling game is one of the games that are characterized by the speed of its stimuli and the rapid change of position, and this is a great burden on the player, and that the player's ability to locate his position during play and know the time of movement performance is the most important type of perception of a kinesthetic sense from the researcher's point of view, along with other types, such as the perception of the perception of the tool, speed, rhythm and movement timing. Therefore, the player's ability to perceive the surroundings and the situations going on in it enables him to score a point on the opposing player, whether in offensive mode or

important stage is the stage of issuing orders and instructions or reaction and response and this depends On the stage of perception and strengthening it from spatial perception, it allows understanding our surroundings and defining our relationship with it and allows seeing the response from different angles and getting to know it regardless of the side we see, and that losing a sense of place and time leads to the lack of awareness of three measures: time, place and competitor.

And the perception of the sense of time differs from the perception of the sense of place, the latter is an ability that must be processed in the brain, and this differs from one person to another, so it is not related to any sensing system in the brain, and the perception of the sense of time is imperative for the player to have a full sense of the time the skill takes to be able to determine the speed Kinetic performance. This helps the fencing player to match his movements with the foil, as "determining the relationships are essential.

References

1. Abdul-Hadi Abdul-Hamid and Abdul-KarimFadel: Sports Fencing, Technical Foundations, Education, Training, and Arbitration, University of Baghdad, College of Physical Education, 2008
2. Sabah Nuri Hafez and others: Theoretical principles in learning to fight, 1st Edition, Baghdad, Al-Nour Office for Printing, 2011,

importance of perception is a sense of time, place and distance. The more the player or the trainee possesses a high capacity of perception, whether in time or place, the more effective and faster the performance of the fencing player As, "Perception of the sense of time is a very important ability in the field of sports, and it is imperative for the player to have a full sense of the time spent by repeated and successive movement to be able to determine the speed of movement performance." (Abdul Sattar: 2000: 22)

The performance of complex tests (skill - mental) requires the player to perceive a sense of the appropriate place and time for the performance process to be completed successfully, and that any defect in the perception process is reflected negatively on the performance, especially the movements that require compatibility between arm and foot, especially the fencing game, one of the fast games that need exercises The player's perception of space and time and his sense of the environment are effectively used, and from here highlights the importance of kinesthetic perception in the sports field in general and the game of fencing in particular.

The game of dueling contains its skills in the movements of attack and defense between competitors, each player tries to score a touch on the other by using the foil, and that the decision-making and the correct position and the ability to take the correct position depends on the process of awareness and the most

- control in soccer, Scand J Med SCI Sport: 16 (5).,
12. Sell TC Y-S, Smoliga JM (2007): Strength, flexibility, and balance characteristics of highly proficient golfers. strength Cond Res: 21 (4)
3. Qasim Hassan Hussein; Sports Psychology: (Mosul, Higher Education Press, 1990).
4. NizarTaleb and KamelAlwais; Sports Psychology: (Baghdad, House of Wisdom for Printing and Publishing, 1993).
5. JamilSaliba; Psychology: (3rd Edition, Lebanese House of Books, 1990),
6. Eileen WadihFarag and SalwaEzz El-Din; Reference in table tennis: (Maarif Foundation, Alexandria, 2002),
7. NofalFadel; A comparative study in some perceptual, sensory-motor abilities between players and goalkeepers in the football game, Al-Rafidain Journal for Sports Sciences, Issue 47, 2008
8. Abdul SattarJabbar Al-Damad, Physiology of Mental Processes in Sport: (1st Edition, Amman, Dar Al-Fikr for Printing and Publishing, 2000)
9. FotiniVenetsanou (2011): The Effects of Age and Gender Skills in Preschool Children, FACTA Universitatis Series, Physical Education and Sport KVol90, No, 1
10. Paillard T, Noe, (2006): Postural performance and strategy in the unipedal stance of soccer players at different level of competition. J A .th Train: 41 (2)
11. Paillard T, Noe.FRiviere: (2006): Effect of expertise and visual contribution on postural,