



ISSN Print: 2664-7281  
ISSN Online: 2664-729X  
Impact Factor: RJIF 8  
IJSEPE 2023; 5(2): 09-14  
[www.sportsjournals.net](http://www.sportsjournals.net)  
Received: 07-04-2023  
Accepted: 13-05-2023

**Dr. Atheer Abdul-Jabbar Farhan**  
General Directorate of  
Education of Baghdad, Rusafa  
3, Baghdad, India

## **The effect of organizing skill exercises with technical instructions (Fit Light) on the accuracy of the skills of kicking the ball (penalty) and the corner kick in football**

**Dr. Atheer Abdul-Jabbar Farhan**

**DOI:** <https://doi.org/10.33545/26647281.2023.v5.i2a.41>

### **Abstract**

The research aimed to prepare skill exercises organized with technical instructions (Fit Light) for football players, to identify their impact on the accuracy of the skills of kicking the ball (penalty) and the corner kick in football, and the researcher assumed that there are statistically significant differences between the results of the pre- and post-tests of the experimental and control research groups for each of the accuracy of the skills of kicking the ball (penalty) and the corner kick in football, and there are statistically significant differences between the results of the tests of the experimental and post-control research groups for each of the accuracy of the skills of kicking the ball (penalty) And the corner kick in football, and the experimental approach was adopted by designing the experimental and control groups on a sample of elite advanced players in the Air Force Football Club in open arenas who are continuing their training for the sports season (2022-2023), deliberately selected from them (24) players representing (75%) of their community of origin, They were then divided into two experimental and control groups according to the requirements of the experimental design with an equal number of each (12) players distributed to them randomly, and after determining the tests, the experiment was carried out in the conditions of simulating the same playing situations and on the open pitches using colored LED daytime running lights and special daytime running lights with (Fit Light) technology and was invested in the training environment accompanied by their training followed without the intervention of the researcher with the components of the load or methods and training methods and methods and continued to work in the period of special preparation for the competitions for a period of (8) weeks. Consecutive training at a rate of (3) training units in each week, and after the completion of the experimentation, the researcher verified the results with the statistical bag system (SPSS), To be the conclusions and applications that the application of organizing skill exercises with technical instructions (Fit Light) helps improve the accuracy of the skill of kicking the ball (penalty) in football, and that the application of organizing skill exercises with technical instructions (Fit Light) helps improve the accuracy of the skill of the corner kick in football, and it is necessary to emphasize the good choice of daytime lighting in the technique of (Fit Light) and color, in a way that suits the situation of open football stadiums, and not to exaggerate those lights and colors.

**Keywords:** Fit light technology, penalty kick accuracy, corner kick accuracy, football

### **Introduction**

#### **Research problem and its importance**

Accuracy in various football skills requires an active mind that supports focus, and in order to influence the mind of the human mind, it is necessary to resort to visual exercises that support quick thinking to address the positions of fixed balls directed at the goalkeeper, and this requires preserving the motor paths to achieve the skillful goal, by harnessing technology And employing them in different regions and according to the determinants of skill success.

As the twenty-first century imposes new variables and a rapidly changing world in which knowledge and technology invade all facilities of public and private life, and that the scientific technical revolution in our current era and the urgent need to continue research and progress in all fields, and the rapid change that this era is witnessing is only a faster introduction A more comprehensive world awaits the future, where machines and electronic minds will do routine work and leave people innovative and creative work.

**Corresponding Author:**  
**Dr. Atheer Abdul-Jabbar Farhan**  
General Directorate of  
Education of Baghdad, Rusafa  
3, Baghdad, India

All this prompts us to think seriously about developing the thinking capabilities of players from the early stages of their lives, to review ourselves and to change our way of thinking so that it qualifies us to deal with future sciences, discoveries and creations. ". (Al-Ghurairy, 2007, p. 1) <sup>[6]</sup>.

The human brain needs stimuli that increase the activation of its mental processes, which, as a result, issue instructions for repetitive movements that face the problem of pharmacological fatigue from time to time, as the signals that enhance the work of the brain are divided into three types according to their intensity, as follows: "Signals below the lower threshold: These are the signals whose intensity is Less than the minimum threshold and therefore do not cause excitation or response later except in cases of plural by distance and time, and signals with a minimum threshold: which are the signals whose intensity has reached the minimum threshold or the minimum level of intensity, and thus cause excitation and response later, and signals above the lower threshold: which are the signals that Its intensity is higher than the lower threshold, which cannot cause excitation in the event that the nervous tissue is in the state of excitation." (Younes, 2002, p. 109) <sup>[12]</sup>.

As "as a result of the abundance of stimuli, exhaustion, or fatigue of the mind, a kind of inactivity affects the brain, which is reflected in the memory of information processing, and that activating this memory in the brain increases perceptions, especially auditory and visual perception, and helps to prepare the mind for acceptance or mobilization of information, storing and retrieving it in a way that allows or helps to The appearance of the required response, and this activation depends on the type and strength of the stimulus or sedative that the individual receives, and advanced psychological studies confirm in this regard that activation can occur, whether it is forced or at the desire of the individual, but it is not possible to activate the brain forcibly and obtain desired responses, but rather the organizer The training environment is to create conditions for activation by avoiding coercion, regardless of the type of stimulatory means affecting the receptors for that activation." (Nazer, 2010, P: 325) <sup>[21]</sup>.

And that this matter is not a ramification between chemistry, physiology and physiological psychology because the overlap between the knowledge that you provide us with merges into one scientific fact that physiology is inseparable from its interdependence with psychological and mental interpretations of movement, and thus the investment of visual perception for players with the activation provided by visual stimuli in The training process, including stimulating the brain with the optical Fit Light technology, to support the training process with things that do not deviate from the issues of decreasing the production of vital energy to challenge the fatigue of concentration in competitions that have received wide interest in research that provides support for players at one level or with a distribution of mental energy that ensures reduced distraction or feeling Thus, the technique of (Fit Light) in training does not provide restrictions on the training load as much as it works as a stimulus that arouses attention and focus in team games that require mastery of skillful performance and speed of response to the sudden movements that the players encounter in that performance, that is, it is directed towards visual perception. (Job & Dalziel, 2018, P: 467) <sup>[18]</sup>.

Also, "sight stimulation is one of the most important of these techniques presented in the sports field, and this type

of stimulation is a repetitive series of eye exercises with the aim of improving basic visual capabilities, which are important for athletes in all competitive sports." (Isabel Walker, 2001, P: 103) <sup>[16]</sup>.

That is, "there is no discussion about information processing without examining automated or controlled processing. Automatic processing uses a series of nerves that become active in response to certain stimuli. This activity does not need dynamic control in part of the subject, and it is the result of good learning. It is organized as a blueprint, or sent directly to the correct response areas in the brain with limited processing." (Al-Fadhli and Al-Bayati, 2010, p. 105) <sup>[7]</sup>.

And that the investment of brain stimulation with activation provided by visual stimuli in the training process, including stimulation of the brain with visual (Fit Light) technology to support swimmers' training because physiology is inseparable from its interdependence with psychological and mental interpretations of movement, and thus two cases of electrical physiology are related to pre-fatigue or points The failures are an increase in the amplitude of the association in the synchronization of motor units, and the conduction of the average frequency of muscle energy. (Bao & Other, 2013, 251) <sup>[13]</sup>.

Likewise, the "Fit Light" technique in training does not provide restrictions on the training load as much as it acts as a stimulus that arouses attention and focus in various games that require mastery and speed of movements in that performance, and stress on the chemical level in the brain is linked to chemical dynamics, as the cell feeds on the amount of food transformation, and after its completion, units of the cell throw out the waste, and thus they spend energy, so the energy that you get through metabolic processes must be greater than the waste, and the energy that you liberate when thrown out, and if the opposite happens, then what is called poisoning occurs, which generates a deficiency functionally at the cell level, and then dispersion appears in performance." (Makhlouf, 2006, p. 86) <sup>[10]</sup>.

Also, "when the image of the things that we look at is focused on these cells, they alert them, resulting in electric currents that pass through threads of nerves to the back of the eye, and here they all gather together to form the optic nerve that carries the waves to the brain, and protects the eye from being exposed to a lot of harm." Its recessed position is in a deep cave called the orbit, just as the eyeball rests in a hypothalamus, which is like pillows for it, protecting it from the evil of painful shocks to the head. The lacrimal gland secretes a continuous stream of salty liquid that washes its exposed surface and then drains into the nose through the tear ducts, and we call that liquid tear as its secretion increases until it overflows on the edge of the lower eyelid. (Goldberger & Gurney, 2013, P: 21) <sup>[15]</sup>.

The accuracy of skillful performance is defined as "the ability to coordinate well the movements that the athlete performs, whether with all parts of his body or a specific part of it." (Salem, 2004, p. 37) <sup>[4]</sup>.

And that the common accuracy divisions in physical education sciences are represented by "spatial accuracy, temporal accuracy, and timing accuracy." (Schmidt & Weisberg, 2000, p: 162) <sup>[22]</sup>.

After the introduction of (Fit Light) technology in the training of most games and events, what calls for its applications in this research is what the researcher noticed of a problem in the weakness of the accuracy of the penalty

kick and the corner kick. Thus, what is desired from this research in Al-Sari is to increase the capabilities and capabilities of football players in activating their brain responsible for issuing neuromuscular signals by investing the sense of sight, which is one of the most specialized senses in the activating receptors of the brain, and in conditions of simulating the same playing positions and on the floor of the outdoor stadiums using LEDs (LED) daylights are colored and daylights special with (Fit Light) technology to provide facilities for the players to realize the areas to which the balls are to be directed, as well as to provide the elements of excitement and suspense in the football training environment.

### Research Aims

1. Preparing organized skill training with (Fit Light) technical instructions for football players.
2. To identify the effect of organizing skill training with (Fit Light) technical instructions on the accuracy of the skills of kicking the ball (penalty) and the corner kick in football.

### Research hypotheses

1. There are statistically significant differences between the results of the pre and post-tests of the experimental and control groups for each of the accuracy of the skills of kicking the ball (penalty) and the corner kick in football.
2. There are statistically significant differences between the results of the experimental and control posttests for both the accuracy of the kicking skills (the penalty) and the corner kick in football.

### Research limits

**Human Frontiers:** The young players of Al-Quwa Al-Jawiya Football Club applying for the 2022-2023 season.

**Time limits:** For the period from (2/15/2023) to (5/16/2023).

**Spatial borders:** Baghdad / Rusafa / Air Force Club Stadium.

### Research Methodology

According to what was determined by the research problem, the researcher adopted the experimental research approach, which is defined as "the approach in which we treat and control an independent variable to see its effect on a dependent variable, while observing the resulting changes and interpreting them, whether the experiment includes an independent variable and a dependent variable or more than one independent variable or More than one dependent variable." (Al-Mahdi, 2019, p. 214) [11]. In accordance with the hypothesis of the current research and its independent variable, and according to the logic of the sequence of

methodological procedures, the researcher chose the experimental design with two experimental and control groups with tight control in the pre and post-tests.

### The research community and its sample

The limits of the research community were represented by the elite advanced players in the Air Force Football Club in the open arenas, whose number is (32) players who are continuing their training for the sports season (2022-2023), (3) injured players were excluded from them, and (24) players were deliberately chosen for the research sample. They represent (75%) of their original community, then they were divided into two groups, experimental and control, according to the requirements of the experimental design, with an equal number of each (12) players. For the experimental design, in which the values of the distortion coefficients ranged between (+1), and (5) players were selected from them for the survey sample, with a rate of (15.625%) from their original community.

### Measurement and procedures

To measure each of the accuracy of my skills in kicking the ball (penalty) and the corner kick in football, my test was adopted (Mohsen, Thamer and others, 1991, p. [9] Daylight (LED) lights on the floor within the (Fit Light) technology on the open field from the place of the corner kick to the middle of the goal, extending the lights in the penalty area from the place of kicking the ball to three areas to the sides and the middle, and the performance of the players (4) selected for the reconnaissance experiment, For the purpose of examining the quality of the exercises through it, and then the researcher set out to prepare exercises with (LED) daytime lighting or evening lighting distributed according to the purpose of using (Fit Light) technology in all areas of the required accuracy mentioned in the pilot experiment. It works with a dry battery and is intended for these devices, whose role is stimulating for the brain that the player needs attention, and the coach places them as a stimulus to avoid losing the required accuracy. It was invested in the training environment, accompanied by their training, without the intervention of the researcher with the components of the load or the training methods and methods. Work continued on it during the period of special preparation for the competitions for a period of time. (8) consecutive training weeks at a rate of (3) training units in each week, and after the completion of the experiment by pre-measurement on (2/16/2023) and application by technique and post-measurement on (16/5/2023), the researcher verified the results using the statistical bag system (SPSS), to calculate each of the percentage values, the arithmetic mean, and the standard deviation, and the t-test for uncorrelated samples, and the t-test for correlated samples.

### Results and Discussion

**Table 1:** Shows the results of the tribal tests between the two research groups

The test	Group and number		Mean	STD	Levin Value	(Sig.)	(t)	(Sig.)	The difference
Kicking accuracy (penalty)	Experimental	(12)	3.25	1,658	0.002	0.964	0.979	0.338	Non
	control	(12)	3.92	1,676					
Corner kick accuracy	Experimental	(12)	2.58	1.24	0.098	0.757	0.91	0.373	Non
	control	(12)	3.08	1,443					

Non-significant when (Sig) < (0.05) at the level of significance (0.05) and degree of freedom n-2 = (22)

**Table 2:** Shows the results of the pre and post tests for the two research groups

The test	The group	Comparison	Mean	STD	A.V	D.V	(t)	(Sig.)	The difference
Kicking accuracy (penalty)	Experimental (12)	Pre	3.25	1,658	5	1,859	9,319	0.000	D
		Post	8.25	0.452					
	Control	Pre	3.92	1,676	1,417	1,084	4,529	0.001	D
		Post	5.33	1,155					
Corner kick accuracy	(12)	Pre	2.58	1.24	4.75	1,485	11,082	0.000	D
		Post	7.33	0.492					
	Experimental	Pre	3.08	1,443	2,083	0.996	7,244	0.000	D
		Post	5.17	1,267					

D: (Sig) > (0.05) at the level of significance (0.05) and degree of freedom (n) - (1) for each group.

**Table 3:** Shows the results of post-tests between the experimental and control groups

Test and measurement unit	The group	The number	Mean	STD	(t)	(Sig.)	The difference
Kicking accuracy (penalty)	Experimental	(12)	8.25	0.452	8,147	0.000	D
	Control	(12)	5.33	1,155			
Corner kick accuracy	Experimental	(12)	7.33	0.492	5.52	0.000	D
	control	(12)	5.17	1,267			

The significance of the difference (Sig) > (0.05) at the level of significance (0.05) and the degree of freedom (n1 + n2-2) = (22)

The researcher attributes the emergence of these results among the players of the experimental group to the positive effect achieved by the application of organizing skill training with technical instructions (Fit Light), which the researcher was keen to prepare to be directed according to the paths that the player is expected to take when performing the two kicks in question, which were devoid of It is complicated according to the color stimulus using the (Fit Light) technique, and starting with them without tools or resistances, and then moving to the subsequent interim goals according to a logical planning and application that suits the specificity of football in open stadiums, as these exercises were characterized by ease and flexibility in this application using the technique (Fit Light), which helps to activate the memory to perform kicks from different positions, which helps to increase the neuromuscular control in controlling the muscles based on obtaining spatial accuracy, and according to the limitations and cautions of not exaggerating the color degree of the type of lighting, and the researcher's keenness in preparing and applying these exercises By using the (Fit Light) technique, to fit its content with the open stadiums, if its function is promotional, directive, and suspenseful with the excitement it achieves at the same time, which helped the players of the experimental group improve and outperform the players of the control group.

As "a good training method must be economical and appropriate to the nature of training duties at the same time to develop physical attributes such as strength, endurance, prolongation and flexibility." (Al-Khouli and Al-Arab, 2009, p. 225) [1].

And the performance of the neuromuscular is the ability of the individual to integrate more than one movement using more than one of the parts of his body in one frame, smoothly and with high accuracy. (Al-Lami, 2006, p. 29) [8]. Also, "whenever there are many repetitions to respond to a specific stimulus, this will speed up the decision-making process, and then shorten the reaction time and increase its speed.

As the Gestaltists believe that memory works to reorganize its components to form what is called a good whole (Good Gestalt), as it seeks to reorganize the existing relationships between the elements of experience to preserve the meaning or structure inherent in them, the perception process does

not take place directly, but is governed by mechanisms and principles. He called them the principles of perceptual organization by which individuals are able to understand and distinguish things.

Likewise, "perception in general and of its various types means the player's method or method in organizing his reception, assimilation and understanding of information as a mental process that takes place inside the brain, and this mental process depends on the integrity of the senses and the activity of attention and concentration, to be followed by the process of storing and searching in memory for decision-making later. (Goetz & Ash, 2006, P: 219) [14].

Also, "the rate of activation of motor units and control over the style of excitement is the main factor between good performance and not so good performance." (Saad Al-Din, 2000, p. 30) [5].

It is through the exercises that each of the harmonious abilities of the players develops, after that it moves to the general skills and then to the special skills of the specialized sport, as it prepares the nervous system to be ready and willing to activate more motor units because the more muscles use more motor units, the greater the force used during muscle contraction and contraction Strong musculature leads to the production of a large amount of speed, agility and coordination, which is reflected in the development of the skill level and helps in finding an athlete characterized by a high level of performance.

And that neuromuscular performance is one of the complex capabilities that require good levels of other components of fitness, such as balance, agility, and strength, and all sports activities and exercises share the need for a varying amount of coordination and coordination of movements in the constantly changing environment, despite the complexity of the processes associated with neurological compatibility. "The human brain is able to easily integrate information coming through the sense organs, muscles and joints, thus providing a wide repertoire of adaptive behavior. In sports there is a need to understand and understand the behavioral and neural mechanisms underlying performance and improvement." (Jantzen, Ollier & Kelso, 2008, 335) [17].

Likewise, when the body responds to external stimuli, complex chemical reactions and simple electrical charges occur, which are transmitted quickly in the nerve fibers (axons), then followed by another nerve message mediated



by another alert, and so on millions and after millions of these electrical nerve impulses, emitted every second during conscious and unconscious life For humans, it goes to and from the brain, muscles, and glands.” ((Wilmore and Costill, 2007, p: 225 <sup>[23]</sup>).

As "situations that do not put pressure on the nervous system help to produce desirable responses that are stable and easier to remember than stressful situations that the individual seeks to forget with all the details they contain, and thus it is necessary to move away from human coercion when fixing the desired responses to be called in new situations. (Marcora 2018, P: 106) <sup>[19]</sup>.

### Conclusions

1. The application of organizing skill training with technical instructions (Fit Light) helps in improving the accuracy of kicking the ball (penalty) in football.
2. The application of organizing skill training with (Fit Light) technical instructions helps in improving the accuracy of the football corner kick skill.
3. It is necessary to emphasize the good selection of daylight fixtures in (Fit Light) technology and color, in a way that suits the situation of outdoor football fields, and not to exaggerate in those lightings and colors.

### References

1. Al-Khouli, Amin Anwar, Al-Arab, Diaa Al-Din Muhammad. Sports education and training technology, teaching aids and materials - equipment and training aids. Cairo. Arab Thought House; c2009.
2. Khion Yarub. Motor learning between principle and application. Baghdad. Rock office; c2000.
3. Al-Zagloul, Rafea Al-Naseer, Al-Zagloul, Emad Abdel-Rahim. Cognitive psychology. Oman. Dar Al-Shorouk for publication and distribution; c2017.
4. Salem, Karima Fayyad. The effect of self-learning strategy and peer tutoring on the level of technical performance and achievement of the air rifle shooting effectiveness. Master Thesis. College of Physical Education and Sports Sciences for Girls. Baghdad University.
5. Saad El-Din, Mohamed Samir. Physiology and physical exertion. Alexandria. Knowledge facility. 2000.
6. Al-Ghurairy, Saadi Jassim Attia. Teaching thinking (its concept and contemporary trends). Baghdad. House of books and documents. 2007.
7. Al-Fadhli, Sareeh Abdel-Karim, Alwan, Wehbe Alwan Al-Bayati. Qualitative analysis in kinesiology. Baghdad. National Library. 2010.
8. Al-Lami, Abdullah Hussein. Fundamentals of motor learning. Diwanayah. Moayad Art Group for Printing. 2006.
9. Mohsen, Thamer, *et al.* Football test and analysis. Iraq. Mosul University Press. 1991.
10. Makhlof, Souad. Psychological pressure and its impact on the behavior of doctors working in health centers. Master Thesis. Oran University. Algeria. 2006.
11. Al-Mahdi, Magdy Salah. Educational research methods. Cairo. Arab Thought House. 2019.
12. Younes, Mohamed Mahmoud. Physiological Psychology. Amman, Dar Wael for publication and distribution. 2002.
13. Bao S, Mathiassen SE, Winkel J. Normalizing upper trapezius EMG amplitude: comparison of different procedures. *J Electromyogr Kinesio.* 2003;5:251-257.
14. Goetz E, Alexander P, Ash M. *Educational Psychology.* N.Y. Macmillan, publishing co., 2006.
15. Goldberger M, Gurney. The effects of direct teaching styles on motor skill acquisition of fifth grade children. *Regarch Quarterly for exercise and sport.* USA. 2013.
16. Isabel Walker. Why visual training programs for sport don't work, *Sports Sci;* c2001 Mar, 19(3).
17. Jantzen K, Oullier O, Kelso J. *Neuroimaging Coordination Dynamics in the Sport Sciences, (Electronic Version), Methods,* 45, 2008, *Journal.* 2008. homepage: [www.elsevier.com/locate/ymeth](http://www.elsevier.com/locate/ymeth)
18. Job RFS, Dalziel. Defining Fatigue as A condition of the organism and distinguishing it from habituation, adaptation and boredom. In P.A.H ancock and P.A. Desmond (Eds. 1, stress work load and fatigue Mahwah, newjersyil Lawrence Erlbaum Associates. 2018.
19. Marcora, Samuele. Mental fatigue affects physical performance in humans. *Journal of Applied Physiology,* 2018, 106(3).
20. Mathew Schirm. *Agility Ladder Drills & Exercises.* [http://www.livestrong.eonvariele/1384\\_7\\_5-agility-ladder-drills-cxrcises.](http://www.livestrong.eonvariele/1384_7_5-agility-ladder-drills-cxrcises) 2009.
21. Nazer SM. The Effectiveness of Teaching through a Proposed Instructional Program Based on the Integration of the Theories of Multiple Intelligences, *College of Art and Management Sciences, Umm Al-qura University.* 2010.
22. Schmidt, Weisberg. *Motor learning and Performance:* 2<sup>nd</sup> ed., USA. 2000.
23. Wilmore J, Costill D. *Physiology of sport and exercise.* (4<sup>th</sup> Ed.). Human Kinetics, Champaign, IL. ISBN: 978-0736055833. 2007.

### Appendix (1) explains the two research tests

**First:** The penalty kick test:

- **The purpose of testing** / measuring the accuracy of shooting towards the goal from a penalty kick point
- **Tools needed** / 1/2 soccer field, 5 soccer balls, rope or tape
- **Procedures:** A line is drawn parallel to the goal line and at a distance of (12) yards from it, and the ball is placed on the penalty point and in the direction of the goal, and the player kicks the ball with his foot to enter it into the goal. Each player is given (5) attempts, and scores are calculated as follows:
  - A. If the ball enters the goal from a flying position, the player is awarded two points.
  - B. If the ball enters the goal immediately after touching the ground once, the player is awarded one mark.
  - C. c. If the ball enters the goal from the position of rolling on the ground, the player is awarded 1/2 of a degree.
  - D. The player is awarded zero if the ball does not enter the goal, and the final score is 10 degrees

**Second:** The corner kick test

- **The objective of the test:** measuring the skill and accuracy in putting the ball into play by kicking it from one of his sides.
- **Test procedures:** A square with side length (6 yards) is determined in front of the goal, then the player kicks the

ball from the corner with one of the feet so that it falls inside the square drawn, and the player is given (5) attempts and the player is free to use the method he chooses and the five attempts are not continuous. Scores are calculated as follows:

The results of the best two attempts out of the five attempts are calculated for the player, and this is done as follows:

- If the ball falls directly into the square, the player is awarded 5 marks
- If the ball touches any part of the square while it is rolling on the ground, the player is awarded two marks.
- The final score is 10 marks.

**Appendix (2)** shows colored LED daytime running lights and daytime running lights with (Fit Light) technology



**Fig 1:** Showing daytime running lights



**Fig 2:** Showing the remote control