



THE INTERACTIVE EFFECT OF INFORMATION PROCESSING METHODS ON THE TACTICAL PERFORMANCE OF FOOTBALL PLAYERS

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Abstract

This study was carried out during the sports season (2022-2023) to prepare a measure of information processing methods and a test for tactical performance and apply them to futsal players for the Central and Southern clubs, as well as preparing a test for tactical performance to identify the effect of the interaction of information processing methods on the tactical performance of futsal players, and to use the approach. Descriptive using the method of survey studies and the method of correlational studies in order to suit the nature of the problem. The research community was represented by futsal players applying for some clubs in the central and southern governorates, numbering (186) players. Distributed among (14) clubs, and the research sample represented (70) players who were selected in a stratified and equal manner, with (7) players distributed among (10) clubs. The scale prepared by (Saad Jassim Hammoud) was used and consisted of (76) items. Two-way (applies to - does not apply to), divided into four areas:

- ✓ In-depth treatment consisting of (20) paragraphs
- ✓ The methodological study consists of (22) paragraphs
- ✓ Maintaining scientific facts and consisting of (14) paragraphs.
- ✓ The extended and detailed treatment consists of (20) paragraphs.

As well as preparing the plan performance test, the results were analyzed using the statistical program (SPSS) The results showed that the interaction of the four information processing methods together (in-depth processing, systematic study, retention of scientific facts, and extended and detailed processing) affects the accuracy and timing of the tactical performance of futsal players.

Introduction

Many ideas arose among futsal specialists to give it a chance to develop in our beloved Iraq, similar to other sports that received appropriate attention, and they began to extrapolate the reality of the game and ways to elevate it to the ranks of developed countries that excelled in playing it, so they discussed its components from physical, skill, tactical, and even aspects. Psychological and educational to enrich it with information that may help specialists and coaches determine the condition of their players. If we touch on the technical and skill aspects, we are not exaggerating if we say that one player excels over another based on them. The one who masters the arts of the game and performs its skills is in a different state from the one who can only perform the skills. Even if we are talking about the tactical aspects, the coach must

realize the importance of employing the players' skills and their proficiency in them. The field of play and in front of each competitor, as required by the competition in question. Among the things that are recognized by experts in futsal, and even in all sports, are the psychological and educational aspects and the level of psychological preparation that accompanies the stages of sports training, as it is the basis for proper dealing during training, competition, and after competition. We can classify psychology into mental and emotional, and thus it contains all what indicates cases of victory over competitors.

One of the most important mental abilities that sports psychologists are interested in are the methods that help in learning things with different names and methods of processing information. It is a mental process that takes place according to cognitive organizations stored in memory with the help of sensation and perception. Due to the lack of clear and precise indications about futsal players, the work was In the current research. It has benefited the players by highlighting the factors that lead to plans, increasing practice, getting rid of fear and anxiety, and the ease of applying what they have learned on the field, as well as paying attention to responding to treatment methods by the player to confront the huge amount of focus on fundamental ideas. From the above, the importance of the current research is clear in describing the information processing methods used by futsal players and trying to identify their connection with tactical aspects.

Therefore, the research aims to

1. Preparing a measure of information processing methods and applying it to futsal players for the Central and Southern clubs.
2. Identify the reality of information processing methods for futsal players of the Central and Southern clubs.
3. Identify the reality of the tactical performance of futsal players for the Central and Southern clubs.
4. Identify the magnitude of the impact of both information processing methods and the tactical performance of futsal players in the Central and Southern clubs.
5. Identify the impact of information processing methods on the tactical performance of futsal players.
6. Identify the effect of the interaction of information processing methods on the tactical performance of futsal players.
7. Identify the correlation between information processing methods and the tactical performance of futsal players.
8. Identify the correlation between the interaction of information processing methods with the tactical performance of futsal players.
9. Identify the contribution of information processing methods to the tactical performance of futsal players.
10. Identify the contribution rate of the interaction of information processing methods with the tactical performance of futsal players.

Research areas

- First - The human field: Futsal players from (10) Central and Southern clubs for applicants for the sports season (2022-2023)
- Secondly - Time frame: 10/26/2022 AD until 2023.

- Third - Spatial area: Indoor sports halls designated for each club.

Terms used in the search

Methods of processing information: It expresses the individual’s style of thinking and his way of understanding, remembering and perceiving, which depends on forms of classifying, composing, analyzing, storing and recalling information when necessary. These processes are practiced by the individual in his daily dealings with information and academic material and contribute to developing the individual’s awareness and skills and achieving excellence and high achievement) .

Through the researcher’s knowledge of the subject of information processing methods, the researcher came up with a theoretical definition (it is a group of overlapping, overlapping, and coupled methods that define methods of perception, memory, and solution to the problems facing the team in its daily life. It is the best way to collect information, process it, integrate it into its cognitive structure, and store it in its long-term memory using it in different life situations.

Research Tools

The research community and its samples

The research community, which is represented by futsal players applying for some clubs in the central and southern governorates for the sports season (2022-2023), was identified, amounting to (186) players. Distributed among (14) clubs, various samples were drawn from the statistical population for the current research according to their purpose. The samples are:

First - the main research sample

From the current research community, a sample of (50) players was chosen as a sample for the purpose of identifying the reality of information processing methods and the tactical performance of futsal players and identifying the correlation and impact between them. This sample was selected by a stratified random and equal method, as in Table (1)

Second - The exploratory study sample

The sample for the exploratory study on the scale of information processing and tactical performance. This sample amounted to (20) players drawn in a random and equal stratified manner, with (2) players from each club as in Table (2). Note that the data collected from this sample was added to the remainder of the main experiment sample (50) players, bringing the total to (70) players, and Table (1) shows this.

Table (1) Distribution of the research population and its samples

a sample Exploratory study	a sample Master experience	the total number	Geographical location	The club	No
2	5	12	Najaf	Central Oil Club	1
2	5	15	Karbala	Popular Mobilization Club	2
2	5	12	Wasit	Eastern Club	3
2	5	12	Basra	Basra	4

				Municipality Club	
2	5	13	Basra	South Gas Club	5
		14	Basra	Basra Oil Club	6
2	5	15	Basra	Visual Youth Club	7
2	5	12	Baghdad	Traffic club	8
		13	Baghdad	Army Club	9
		12	Baghdad	Police Machinery Club	10
		15	Baghdad	Police Club	11
2	5	14	Baghdad	Amanat Baghdad Club	12
2	5	13	Baghdad	Al-Wasat refinery club	13
2	5	14	Baghdad	Nail Club	14
20	50	186	the total		

Methods of collecting data

- Arab and foreign sources.
- Tests and measurement.
- Questionnaire.

Auxiliary devices and tools

Many devices and tools were used to collect the required data, including:

- Personal computer (Lab Top)
- Casio scientific calculator.
- Office supplies (paper and pens)
- Registration form.

Search procedures

Specific procedures were followed to achieve the research objectives, which are as follows

Steps to prepare an information processing scale

Many sources and previous studies were reviewed, and the information processing scale prepared by Saad Jassim Hammoud (2017) was used because the scale achieves the goal of the research to be achieved, which is to know the reality of information processing methods for futsal players, and the scale consists of (76) A two-way paragraph (applies to me - does not apply to him), divided into four areas:

1. In-depth treatment, consisting of (20) paragraphs.
2. The methodological study consists of (22) paragraphs.
3. Maintaining scientific facts and consisting of (14) paragraphs.
4. The extended and detailed treatment consists of (20) paragraphs.

As for the scale scores, they were given (1-0) for the negative items and (0-1) for the positive

items. Thus, the scale score ranges from (76 - 0 degrees)

Determine the validity of the information processing scale

A questionnaire form was prepared for the scale and was presented to a group of (13) experts and specialists to express their opinions about the validity of the scale in what it was developed for. The experts and specialists must put a mark on the designated box (valid - no It is valid) and after obtaining the results, the (K2) and percentage test was used, and it was found that the scale was acceptable, and Table (2) shows this.

Table (2) Validity of the information processing scale

Validity	Significance level	Ka2 -	Percentage	Validity		Number of experts	the scale
				Does not fit	Repair		
Acceptance	0.002	9.308	92.31%	1	12	13	Information processing scale

Table (2) shows that the values of the significance level for the (K2) test were smaller than the error percentage (0.05). This indicates that there are significant differences between the opinions of the experts, and what confirms this is that the acceptance rate was (92.31) % by accepting the scale.

Information processing scale instructions

The process of setting the instructions for the scale is of great importance that cannot be underestimated in the success of the process of conducting or performing the test. Studies have proven the importance of the role that these instructions play in changing or influencing the results of the tests, which makes it difficult to make a comparison between the results of the same test in different situations, and these instructions include:

- Answer all paragraphs.
- There is no right or wrong answer, but rather your answers are based on how you feel.
- The result of the paragraph will be deleted if more than one choice is answered.
- The information provided is for scientific research purposes only.

Tactical performance test in futsal

- The purpose of the test: to measure the accuracy and speed of carrying out the tactical duty
- Required tools: a football field - a soccer ball - signs - adhesive tape to mark the area - a stopwatch - two (4) recorders.

Performance description

Three players in the form of an inverted triangle, and each player stands in a specific area measuring (120 cm Player (3) is in the specified area. Player (3) puts down the ball and hands

it to player (1), who moved towards him. Here, player (1) plays the ball, handling it twice (double bus) with player (3), and moves to the side in parallel. The side line by rolling the ball a distance of (12 m) towards a specific area to pass a cross ball to the area between the penalty point and the (6 m) line, to which the two players (2, 3) move and perform the crossover process when they enter the penalty area, after which player (2) scores directly on the goal. With the foot, or with the head, and after completing the execution, the positions are exchanged between the players, and then the player has scored once, received, and delivered three times. To give the performance of the exercise and the required realistic test, a defensive player is placed trying to intercept the ball, knowing that the distance between the two squares (1, 2) is (16 m), and between (1, 3) is also (16 m), and between (2, 3) is (10 m).

Register

(2) points are awarded for correct delivery and receipt, and for scoring (5) points on either side of the goal post, and (2) points for scoring in the middle of the goal, with no point being counted when the receipt or delivery occurs outside the specified area, as well as failure to score. Calculating the full time to perform the exercise, and accordingly, the total score is calculated for (3) attempts to receive, deliver, and one attempt to score, as shown in Figure (1).

Recommendations

Emphasis on receipt and delivery within the player's designated area, with emphasis on speed in execution

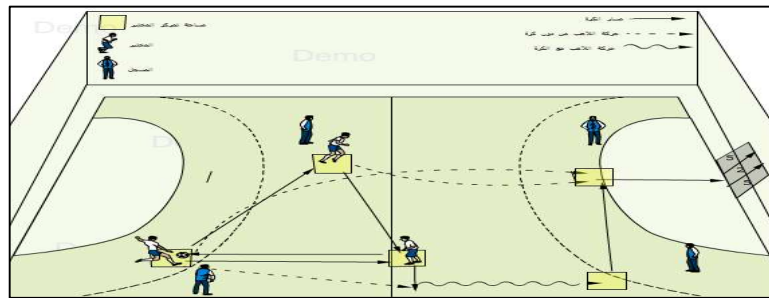


Figure (2) Explains how to apply the plan performance test

Exploratory experience

Scientific research experts recommend conducting exploratory experiments for the tests used in research in order to obtain reliable results and necessary information, to benefit from them when conducting the main experiment, as well as in order to arrive at the best way to conduct the selected tests. Accordingly, the researcher conducted the exploratory experiment on (20) players. Of (10) Central and Southern football clubs, an information processing scale form was distributed, as well as a tactical performance test was implemented. Table (4) shows the dates for conducting the experiment. The purpose of conducting the exploratory experiment is:

First - with regard to the information processing scale

1. Knowing the suitability of the items in the scale.
2. Verifying the clarity of the paragraphs in the scale in terms of language and content.
3. Identify the time required to answer the paragraphs.

4. Identify the time period required to correct one form.

Second - Regarding the tactical performance test

1. Ensuring the validity of the plan performance test, the possibility of applying it to the elected sample, and the extent of its response to the implementation of the test.
2. Training the members of the assistant work team to carry out the test implementation, and to master the validity of the test and write down the results to ensure the success of the educational process.
3. The availability of the required capabilities in terms of the suitability of the specific places to conduct the test, as well as the availability of appropriate tools for testing.
4. Knowing the researcher's ability to conduct the test to know the time it takes to conduct the test.
5. Finding the scientific weight of the test in terms of validity, consistency and objectivity.
6. This experiment achieved its purpose

Table (3) Exploratory experiment implementation plan

the date	today	The club	No
2023 / 1 / 21	Saturday	Central Oil Club	1
2023 / 1 / 21	Saturday	Popular Mobilization Club	2
2023 / 1 / 22	Sunday	Eastern Club	3
2023 / 1 / 23	Monday	Basra Municipality Club	4
2023 / 1 / 23	Monday	South Gas Club	5
2023 / 1 / 24	Tuesday	Visual Youth Club	6
2023 / 1 / 25	Wednesday	Traffic club	7
2023 / 1 / 25	Wednesday	Amanat Baghdad Club	8
2023 / 1 / 26	Thursday	Al-Wasat refinery club	9
2023 / 1 / 26	Thursday	Nail Club	10

Scientific foundations of test results

Validity of the test

It is intended that the test actually measure the ability, trait, attitude, or aptitude that the test was designed to measure. That is, it actually measures what it is intended to measure. To calculate the validity coefficients of the tests, the researcher used experimental validity, and this type of validity is calculated by finding the test's correlation coefficient with an external criterion. Or internal, since the correlation of the test score with an internal or external criterion is an indicator of the validity of that test, and since the researcher did not have a suitable external criterion, he resorted to the total score of the test as it is the best criterion in calculating this relationship, and accordingly the researcher relied on the correlation coefficient (Pearson) between the test scores. subscales, and the total score of the test in calculating the honesty coefficient, and Table (4) shows this.

Test stability:

Constant means “that the test gives the same or close results if it is repeated more than once on the same group and under the same conditions” In order to extract reliability, the researcher relied on the method of dividing in half using odd and even numbers, because it is a method that does not require a long time and is consistent with the requirements of the test. He relied on the data that the researcher obtained related to the score of (20) players, as he divided the data into two halves with (10) scores for each. Half, the first half includes the sequence of data bearing odd numbers and the second includes the sequence of paragraphs bearing even numbers, as the researcher used the Pearson correlation coefficient and Table (4) shows that.

Test objectivity

Objectivity means “the independence of the results from subjective judgment” and that the results of the tests are not affected by the change of arbitrators (1) “as the objectivity of the tests was taken into account in the presence of two arbitrators*, the Pearson correlation coefficient was extracted for their results and the results came out with high objectivity for the arbitrators, as shown in the table (4)

Table (4) Scientific basis for test results

Stability coefficient		Stability coefficient		Honesty coefficient		Variables	
Significance level	value R	Significance level	value R	Significance level	value R		
0.000	1	0.000	0.941	0.000	0.893	In-depth processing	Information processing scale
0.000	1	0.000	0.932	0.000	0.806	Methodological study	
0.000	1	0.000	0.927	0.000	0.869	Maintain scientific facts	
0.000	1	0.000	0.918	0.000	0.901	Extended and detailed processing	
0.000	1	0.000	0.966	0.000	0.880	The scale as a whole	
0.000	1	0.000	0.949	0.000	0.897	Precision	the performance
0.000	0.998	0.000	0.936	0.000	0.905	Time	Tactical

Main experience

An information processing form was distributed with the assistant work team, and after completing the collection of the form, the tactical performance test was applied to the research sample, which numbered (50) players, from (10) from the Central and Southern futsal clubs, and the results of (20) players who represented them were approved. Sample of the exploratory experiment. Thus, the number became (70) players, as the experiment was implemented in the hall designated for each club, and Table (5) shows the main implementation plan.

Table (5) Main trial implementation plan

the date	today	The club	No
2023 / 2 / 4	Saturday	Central Oil Club	1
2023 / 2 / 4	Saturday	Popular Mobilization Club	2
2023 / 2 / 5	Sunday	Eastern Club	3
2023 / 2 / 6	Monday	Basra Municipality Club	4
2023 / 2 / 6	Monday	South Gas Club	5
2023 / 2 / 7	Tuesday	Visual Youth Club	6
2023 / 2 / 8	Wednesday	Traffic club	7
2023 / 2 / 8	Wednesday	Amanat Baghdad Club	8
2023 / 2 / 9	Thursday	Al-Wasat refinery club	9
2023 / 2 / 9	Thursday	Nail Club	10

Statistical methods used in the research

The researcher used the statistical program (IMB v27.1–SPSS) to process the data and show the results. The following is a presentation of the statistical methods used:

- Arithmetic mean
- standard deviation.
- Hypothetical mean.
- Levene test value.
- The value of (t) for one sample.
- -Ca2 test value.
- Pearson correlation coefficient.
- percentage.
- The value of (F)
- The value of the effect size.

References

1. Defarge, N., De Vendômois, J. S., & Séralini, G. (2018). Toxicity of formulants and heavy metals in glyphosate-based herbicides and other pesticides. *Toxicology reports*, 5, 156-163.
2. Hakanson, L. (1980). An ecological risk index for aquatic pollution control. A sedimentological approach. *Water research*, 14(8), 975-1001.
3. Huheey, J. (1983). *Principles of Structure and Reactivity (Inorganic Chemistry 3rd edn)*: New York: Harper and Row.

4. Jaishankar, M., Tseten, T., Anbalagan, N., Mathew, B. B., & Beeregowda, K. N. (2014). Toxicity, mechanism and health effects of some heavy metals. *Interdisciplinary toxicology*, 7(2), 60.
5. Kılıç, Z. (2020). The importance of water and conscious use of water. *International Journal of Hydrology*, 4(5).
6. Komárek, M., Čadková, E., Chrástný, V., Bordas, F., & Bollinger, J.-C. (2010). Contamination of vineyard soils with fungicides: a review of environmental and toxicological aspects. *Environment international*, 36(1), 138-151.