

# The Effectiveness of the Use of Modern Technologies in the Process of Selecting the Morphological and Physical Criteria of Young Swimmers

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## Abstract:

The selection of young child in order to practice various sports activities and reconcile their abilities and preparations depends on scientific foundations and modern techniques on which the selection and guidance process is built, and the awareness of these techniques and work by coaches is one of the most important indicators of raising the level of sports performance, and this study also aims to identify the role of modern technologies in the process of selecting young swimmers and taking care of their talents through the point of view of coaches, and the study sample consisted of 16 coaches distributed over 06 Swimming pools in the state of Laghouat, and the researcher used the descriptive survey approach to its suitability to the nature of the research, where the statistical results showed a significant significance of 0.05 for the role of modern technologies for the selection process (such as technological devices) in the embodiment of anthropometric measurements and physical tests among emerging swimmers, as well as the important role they play in diagnosing and identifying the vehicles of the technical standard, as they facilitate the identification and measurement of the components of physical fitness and increase the accuracy of physical tests and recommends the researcher to pay attention to everything that leads to the detection of talent emerging and guidance, The correct towards the high level by adopting all scientific knowledge and modern means and urging research related to improving the digital level and the scientific application of selection mechanisms using modern technologies and assistive technological means.

**Keywords:** modern techniques - selection process - talent - juniors - swimming.

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## I- Introduction:

Sports selection is the most important base for building an elite athlete and a high level, as defined by Mohamed Lotfi Taha 2002 as the process of selecting the most appropriate elements from among athletes who have special preparations and abilities consistent with the requirements

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of the type of sports activity, and can be predicted to excel in that activity. Certain. Huda Mohammed **Mohammed Al-Khodari (2004)** stated that innovative individuals, with high innovative abilities, and talents who excelled in one or more special abilities are the ones who reach the highest levels in their performance.

The adoption of a long-term selection system depends on the thought and development of society in the field of sports, which in turn reflects the strength and political status , And the economics of the state, from here highlights the importance of sport as a civilized factor for societies, and the philosophy of selection for these sports adopted by the state and providesIt has structures and funding, based on sports that represent a cultural and historical heritage of society based on some geographical components such as the presence of the coast in the territory of the country because it is the natural medium and suitable for practicing a sport such as sports in a wide way, and work to develop it as an Olympic sportSwimming is one of the individual sports with privacy, which derives from the center of its practice, i.e. the water medium is used as a means of moving through it through the movements of the arms and legs to raise the psychological and physical efficiency of the human being (**Osama Kamel Rateb, 1998, p. 06**) in addition to the technical and mechanical privacy that distinguishes it (**Huda Muhammad Muhammad Al-Khudari, 2004**),As indicated by the study of **Ali Farhat 2010** entitled: The most important basic determinants specialized for the selection of juniors in swimming from the point of view of specialists, and the research sample included 10 academic specialists in the field of swimming, and used the descriptive approach survey method, and the researcher relied on the questionnaire as a tool for the study, and the study aimed to identify the most important basic determinants specialized in the selection process objective in the selection of swimmers emerging The results found that there is importance of technical, physiological and psychological criteria in the selection of juniors in Swimming . And also the study of **Abass Omar (2003)** entitled: Selection and sports guidance for talented juniors in football, the study aimed to provide the most important demands of selection and guidance for football coaches to be taken into account when choosing the best beginners in order to form collective games teams that live up to the high level, and the researcher used the descriptive approach to study the subject, and the researcher relied on the questionnaire as a tool for the study consisting of 24 questions addressed to the research sample consisting of 100 coaches in football The researcher reached the conclusion that there is great care and interest in selecting juniors to practice football in Yemeni clubs, which have the tendencies, preparations, abilities and skills required in football. From here emerges the selection process for the purpose of achieving high levels because it depends on the careful selection of the emerging and subject him to long-term scientific training based on the scientific selection of the emerging by directing him towards sports activity that suits his abilities, capabilities and desires and gives him the opportunity to progress and genius, and ensures him to take care of his talent and work to develop it, and adds **Adel Abdel Basir (1992) quoting Zatsiorsky** that it is a process during which the best players are selected at intervals based on the different stages of sports performance, and that a deep study For aspects of his personality,

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athletic talent, psychological characteristics, and evaluating the level of growth of his physical qualities and morphological characteristics, selecting swimmers from the beginning saves effort, time and money that may be spent with people who do not have preparations to be swimmers in the future (**Mahmoud Hassan et al., 1997**), Tests and measurements are the objective means to achieve good selection is the scientific method guaranteed to provide human potential that has the appropriate preparations to reach excellence (**Mohamed Sobhi Hassanein, 1997**), and the employment of information on young people during the process of selection by adopting technological and modern means, through the above highlights the importance of research in highlighting the important role in the exploitation of modern techniques and technology that depends on devices and means that help to test and measure the anthropometric, technical and physical characteristics on which they are built. The selection process, and the organized application of scientific knowledge in the study of all the advantages and characteristics of juniors on the one hand, and the features and characteristics of swimming on the other hand to find a harmonious relationship between them to bring this sport to the desired level. Where **Hopkins (1998)** indicates that reaching the top of sports one needs the appropriate gene that is compatible with the type of sport practiced by the individual to reach the top of the sports level commensurate with his abilities and genetic preparations. **Islam Al-Tahlawi (2006)** believes that the use of biological technology as a basic determinant of various selection processes and reliance on genetic variables as a primary basis in the selection of sports in basketball and other sports, as the process of selecting and directing juniors towards practicing sports activity that suits their preparations and capabilities ensures early detection of sports talents and thus achieving sports excellence, and bringing them to advanced levels, which shows the great importance of this process, especially if we know that it is a combination between selection guidance and selection Swimmers from the beginning saves effort, time and money that may be spent with people who do not have preparations to be swimmers in the future, the process of selecting juniors for swimming is different from other individual sports due to the privacy that we mentioned earlier **Volkov (1997)** defines selection as the process of determining the appropriateness of the readiness of the emerging with the characteristics of a particular sports activity, so some of the peculiarities of swimming must be taken into account, including: the specificity of the water medium and mechanical and technical performance through the study and analysis of their abilities and preparations, a scientific and objective study of all physical, technical and physical determinants and stay away from personal judgments and opinions, through testing and accurate scientific measurement, and in view of the great development in testing and measurement in all fields and the resulting modern technology of devices And various modern scientific tools and techniques, through which we saw the following question arise: Do these modern techniques play a role in the selection process for juniors in swimming? For this purpose, this proposal was directed to the category of supervisors and supervisors specialized in swimming and who deal with the category of junior swimmers in order to ensure the role of modern techniques and measuring devices for swimmers, and this study also aims to identify the reality of the selection

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process for young swimmers in southern Algeria (Laghouat province), as well as to identify the difficulties and obstacles facing those in charge of the selection process.

### II - Main Experience:

1.2- **The method used in the study:** The survey method was used, which is a type of descriptive approach

2.2 - **The community and sample of the study:** The community of our research in the swimming coaches for juniors of the state of Laghouat, which numbered (16) coaches and have been confined to all of them in the research sample so the method of selecting the sample was a comprehensive survey (research community = research sample)

### 3.2 Limitations of the study:

**Spatial area:** Swimming pools of the wilaya of Laghouat.

**Time Domain:** Our study extended from October 2018 to February 2019.

**Human field:** Our study was applied to swimming coaches for the junior category in the wilaya of Laghouat.

3.3 **Study Tool:** In our study, we used a questionnaire form consisting of twenty (20) phrases distributed on two axes:

- **The first axis:** deals with modern means in the field of anthropometric measurements, and its phrases from 01 to 10 and is related to the first partial hypothesis
- **The second axis:** deals with modern means of physical tests and phrases from 11 to 20 and this axis is related to the second partial hypothesis

### 3.4 Psychometric properties of the instrument:

#### -3.4.1 Calculation of the validity of the questionnaire:

Discriminatory honesty: The peripheral comparison method was used on the rationing sample, for the questionnaire as a whole and its axes. The T-ratio was used to calculate the significance of the differences between the averages of the highest and lowest (27%) of the median, and the following table shows the values of (T):

**Table No. 01: Shows the discriminatory honesty coefficient of the questionnaire about the modern techniques of mathematical selection**

Level Significance	Value (t)	Statistical Values		Number	Comparison Group	Dimension
		Standard deviation	Average			
0.05	13,09	2,07	13,33	05	Higher than the median	Anthropometric measurements
		1,93	11,56	05	Inferior to the median	

0.05	9,85	1,79 3,23	12,58 11,98	05 05	Higher than the median Inferior to the median	Physical tests
0.05	15,01	15,59 22,45	233 139.86	05 05	Higher than the median Inferior to the median	Total Grade

It is clear from the previous table that the questionnaire has a high level of validity that can be inferred from the results of re-application, and through Pearson correlation coefficients, where it turns out that all of them are close to the value 1, which confirms that it has statistical significance at the significance level (0.05)

**- Calculation of the stability of the questionnaire:**

The internal consistency was used by Cronbach's alpha method, and the application was repeated after two weeks. The following table shows the results of the stability coefficient:

**Table No. (02): Represents the reliability coefficient of the modern technique's questionnaire for the selection criteria**

Level Significance	Cronbach's alpha	dimension
0.05	0.93	Anthropometric measurements
0.05	0.82	Physical criterion
0.05	0.87	Total Grade

It is clear from Table No. (02) That the questionnaire has a high level of stability, with a total value of 0.87, which is close to value 1, which could be inferred from the results of re-application, and through Cronbach's alpha coefficients, where it became clear that all of them are a function at the level of the significance (0.01).

**Study variables:**

**The independent variable:** new technologies

**Dependent variable:** Mathematical selection

**The mediating variable:** swimming coaches

**Statistical methods used in the study:**

- Coefficient of k squared ( $k^2$ )

T test

Table No.: (03) It shows the value of Ka2 to calculate the role of modern technologies in the field of anthropometric measurements during the selection process for emerging talents in swimming.

Level of Significance	Degree of Freedom	P-Value	Ka2 Scheduled	Ka2 Calculated	Sample	Axis Number
0.05	2	0.000	3.84	34.21	16	01

Through the results obtained in Table No. (03), we note that the calculated value of KA2 reached (34.21) at the degree of freedom (2), which is greater than the tabular value of  $\chi^2$ , which is estimated at (3.84), and the probabilistic value is (0.000) It is less than the significance level (0.05), which indicates that the statements of the first axis have been verified, and from it, the first partial hypothesis is verified.

Conclusion: From the foregoing, we conclude that modern techniques have a role in determining the anthropometric measurements of selection in swimming.

#### Interpretation of the results of the first partial hypothesis:

The results of this hypothesis agree with the study of Ali Farhat (2003) and Bastawisi Ahmed (1999), where both studies indicated the importance of anthropometric measurements in the process of sports selection in general and in swimming in particular, as each sports activity has special requirements. Individuals who practice it have to enable them to reach the highest levels. These requirements are represented in height, weight, and physical style. In addition, those who practice swimming have body measurements that vary according to the type of swimming they specialize in. They all appear in the circumferences of the chest, humerus and thigh, as a result of the different sizes of muscle sections for juniors. Practitioners, and accordingly show the importance of anthropometric measurements in the selection process, and these measurements can only be adopted using modern techniques and means of measurement, and therefore modern techniques have a role in determining anthropometric measurements for selecting junior swimming.

Table No.: (04) It shows the value of Ka2 to calculate the role of modern technologies in the field of physical tests for selection in swimming

Level of Significance	Degree of Freedom	P-Value	Ka2 Scheduled	Ka2 Calculated	Sample	Axis Number
0.05	2	0.000	3.84	9,95	16	02

Through the results obtained in Table No. (04), we note that the calculated value of KA2 reached (9.95) at the degree of freedom (2), which is greater than the tabular value of  $\chi^2$ , which is estimated at (3.84), and the probabilistic value is (0.000) It is less than the significance level (0.05), which indicates the verification of all the statements of the second partial hypothesis, and from it, the second partial hypothesis has been achieved.

**Conclusion:** From the foregoing, we conclude that modern technologies have a role in determining the physical criterion for swimming selection.

#### Interpretation of the results:

The results of our study agree with the study of Eish Omar (2003), in which the researcher reached a conclusion that there is great care and interest in selecting young people to play football in Yemeni clubs. This is because the physical characteristics that enable the individual to be able to perform various motor skills of the various colors of sports activity and reach the highest levels of sport, and in light of those characteristics,

The individual is selected according to the type of sport, and the physical preparations of the juniors in swimming must be determined through a growth assessment these physical characteristics as well as their level in order to predict their future capabilities and according to the modern techniques used in the selection of swimmers. The most important thing that must be taken into account in the juniors is the ability to endurance, agility and flexibility in addition to the speed of all kinds. The process of selecting juniors in swimming.

#### Conclusion:

Based on what was previously collected and analysed from a questionnaire that we addressed to junior swimming coaches about our study, which is centred on "An Analytical Study of Modern Techniques in the Process of Selecting Young Talents in Swimming," we came to the following:

Modern technologies play a positive role in determining the anthropometric measurements of the swimmer selection process

Modern technologies have a role in determining the physical standard in the process of selecting

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junior swimming

The researcher suggested the following:

The necessity of accessing and training on various modern technologies that allow the selection of young people according to scientific and accurate criteria.

The necessity of providing the capabilities and equipment that are used in the selection process

- Conducting measurements and tests using modern devices, means and techniques.
- Conducting the necessary medical examinations during the selection process.
- Programming a scheme for the selection process in terms of the methodological steps and methods of using measurements and tests in order to control this process in terms of time and quality by those responsible for the sport of swimming

**References:**

- [1] Hoda Muhammad Muhammad al-Khudari, Modern Techniques for Selecting Young Talents in Swimming, The Egyptian Library for Printing and Publishing, 1st Edition, 2004.
- [2] Hashem Ahmed Suleiman, Article entitled: Selection in the Sports Field, Football Academy, see [www/badnia.net](http://www/badnia.net)
- [3] Mohamed Mahmoud Abdel-Dayem, Mohamed SobhiHassanein, Modern Basketball, Scientific and Applied Foundations, Dar Al-Fikr Al-Gharbi, 2nd Edition, Cairo 1999.
- [4] Muhammad LotfiTaha, Psychological Basis for Selecting Athletes, Cairo, General Authority for Amiri Press, 2002.
- [5] Mufti Ibrahim Hammad, Sports Training for Unisex (from childhood to adolescence), Dar Al-Fikr Al-Arabi, Cairo, 1996.
- [6] Saleh BirSaad and others, The Scientific Foundations of Swimming Education and Training, Zahran House for Publishing and Distribution, Amman, 2013.
- [7] Muhammad SobhiHassanein, Measurement and Evaluation in Physical Education, Part 1, Dar Al-Fikr Al-Arabi, Cairo, 1997.
- [8] 9. Volkov, quoted in wineick, Manuel d'entrainement sportif, Edition Vigot, 4th edition, 1997.