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**A contribution to establishing standardized levels accompanied by a scoring scale for evaluating and selecting students in the activities of shot put and long jump-A descriptive study on a sample of male students (15-16 years old) from some secondary schools in the municipality of Barika, Batna Province-**

**Abdelhafid Kadri<sup>1</sup>, Rafahiya Bouchareb<sup>2</sup>, Mohammed Meratate<sup>3</sup>, Gasmi Abdelmalek<sup>4</sup>, Chelihi Omar<sup>5</sup>, Benlabeled Abderrahim<sup>6</sup>**

<sup>1</sup>Laboratory of Technological Sciences of Educational Sports Activities, ISTAPS, University Mostafa Ben Boulaid Batna2 (Algeria), E-mail: [Abdelhafid.kadri@univ-batna2.dz](mailto:Abdelhafid.kadri@univ-batna2.dz)

<sup>2</sup>Laboratory of Biological and Psychological Responses in Physical Activities and Sport (LRBPAPS), ISTAPS, University Mostafa Ben Boulaid Batna2 (Algeria), E-mail: [r.boucharebe@univ-batna2.dz](mailto:r.boucharebe@univ-batna2.dz)

<sup>3</sup>Laboratory of Technological Sciences of Educational Sports Activities, ISTAPS, University Mostafa Ben Boulaid Batna2 (Algeria), E-mail: [mohammed.mertate@univ-batna2.dz](mailto:mohammed.mertate@univ-batna2.dz)

<sup>4</sup>Laboratory of Expertise and Analysis of Sports Performance « LEAPS » ISTAPS, University Abdelhamid Mehri Constantine 02 (Algeria), E-mail: [Abdelmalek.gasmi@univconstantine2.dz](mailto:Abdelmalek.gasmi@univconstantine2.dz)

<sup>5</sup>Laboratory of Biological and Psychological Responses to Physical Activity, ISTAPS, University of Oum El Boughi - Laarbi Ben M'hidi (Algeria), E-mail: [Omar.chelihi@univ-ueb.dz](mailto:Omar.chelihi@univ-ueb.dz)

<sup>6</sup>Laboratory of Expertise and Analysis of Sports Performance « LEAPS » ISTAPS, University Abdelhamid Mehri Constantine 02 (Algeria), E-mail: [abderrahim.benlabeled@univconstantine2.dz](mailto:abderrahim.benlabeled@univconstantine2.dz)

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**Abstract:**

Through examining the practical process of selection in the theoretical and field domains in the Algerian educational system, and based on the results of some graduation theses, interviews with some teachers and inspectors regarding the existence of local standards for evaluating students' levels and comparing their performance with their peers, we noticed that the methods used for this are based solely on subjective observation. In order to contribute meaningfully and avoid going in circles, we aimed to establish local standard levels accompanied by a scoring scale for evaluating and selecting students towards practicing shot put and long jump activities. Therefore, the research aims to establish standard levels accompanied by a scoring scale for assessing and selecting students towards practicing shot put and long jump activities within school sports competitions.

For this purpose, the researchers used a descriptive method and randomly selected 472 male students from 566 students (the research population) aged (15-16) years from six secondary schools spread across the municipality of Brikha, Batna Province, for the academic year 2022-2023.

The shot put 04 kg test (males) and the long jump test (males) were selected and verified for their validity, reliability, and normal distribution. They were then applied to the study sample to extract the standard levels and their criteria with the aim of contributing to evaluating students' levels in the mentioned activities. Additionally, they serve as important indicators for teachers to select the best sports elements.

The researchers developed the standard levels using the standard grades in a sequential manner (excellent, good, average, poor, very poor) for these tests. The data

distribution of the study sample was found to be normal, and the results matched the percentages of the Gauss curve in the long jump test but not in the shot put test. A scoring scale was designed for both tests.

**Keywords:** Standard levels, evaluation, selection, shot put, long jump, scoring scale.

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### **Introduction:**

Education in general needs a high level and requires professors with a high degree of scientific and educational competence. On this subject, the pupil should receive science and knowledge in ways that bring it in line with major scientific developments in all fields, the professor should be an expert in education because he is an academic who is interested in teaching and teaching and makes an effort to acquire teaching and understanding skills. That, understands learning theories, and the foundations of the calendar to help And before we do, we have to assess, where assessment means judging the value of objects or phenomena. Approach ", this provision is based on both quantitative and qualitative descriptions, while the calendar is improvement, reform and decision-making processes for adjustment and correction.

The relationship between measurement, testing and evaluation cannot be separated because it is an integrative relationship, because the process of gathering information about objects and determining digital values expresses how much things possess characteristics.

Not only does the researcher collect information and data for collecting it, but he collects it in order to help him make certain decisions within the limits of things after the judgment based on the collected quantitative and digital information. Thus, we say that the measurement and testing process is necessary and must precede the evaluation process that provides the opportunity to make an appropriate decision. However, the difficulty lies in interpreting these scores and giving them meaningful meaning. in which researchers agree on the need for standard standards for a teacher and a sports instructor, This is because it is one of the practical bases of the substantive evaluation, through which the teacher or coach can evaluate students and players at the end of the school year or the end of the training season for the purpose of determining the level of each pupil or player in all tests applied to him, Since the measurement units used to extract different test results are not of a single type In the sense that they vary from one test to another, we must develop solutions to these scores by using statistics by converting raw grades into standard scores that can be collected for any number of tests so that the overall score indicates the overall performance of the individual from different tests.

Standard grades are a means of determining the relative status of raw grades and therefore these grades can be interpreted and their results evaluated and the urgent need to determine the level of performance of pupils in the long jump and jam activity, Researchers conducted this study through a set of tests through which performance results are obtained and then converted into standard scores in order to identify the level of these scores that reflect the objective criterion of performance in the long jump and jam activity.

Tests and metrics are one of the most important rules for planning and follow-up in the field of sports. In this study, we tried to establish standard levels of long jump activity and pay the gel to 15-16 year olds, with a view to placing them in the hands of specialists, actors and those interested in the selection of talented pupils in these activities. In order to select them in school teams and guide them towards the exercise of those activities, Especially in Algeria, we lack internal tests to compare pupils among themselves. or between departments, between high schools or between provinces, or even to compare with a venue External (models), in order to understand the level of individual sports practice witnessed by the Algerian school pupil, and to put hands on strengths and weaknesses in order to raise the level of physical and motor abilities.

Here the problem of research arises in trying to find a scientific, objective and honest view of the long jump activity and pushing the generation as effective practices in a broad way within the physical and sports education class.

Measurements and evaluations have evolved in modern times, especially in the areas of learning, individual differences, physical abilities and preparations. Hence, the levels obtained have to be compared, either internally between individuals, or externally, to compare with typical simulations and balances in order to know the location of the level obtained, in order to facilitate the streaming of the desired goals. Although we know the importance of early selection of gifted athletes in earning time, effort and money, this process is unfortunately still characterized by many ambiguities, shortcomings, spontaneity, coincidence and transitory observation. This assessment is closer to subjectivity than an objective assessment based on the use of levels, criteria and tests.

The selection and mentoring process for young athletes takes place with a lot of improvisation and chaos, with little attention, and following modern methods in the selection process and often without jurisprudence for how to proceed. (Berkok Abdulkader, 2015, p. 158).

Several studies have been conducted on the topic of establishing standard levels for certain physical determinants or digital levels for some individual and collective sports, from which we have selected an Algerian doctoral thesis (2004) for Milan Sa 'ad Ali. This study was conducted on: "Identifying levels of some basic skills for junior footballers" I aimed to reveal the level of Algerian player physically and professionally for the junior category by each region of the homeland (coast, plateau, desert) through the battery of the proposed tests and compare this category with French standards. The researcher used the descriptive methodology to suit the nature and objectives of the research, which was conducted on a sample of 162 players at a rate of 54 players from each region. The player relied on the questionnaire and physical and skilled tests to collect data and information and used the following statistical means: Percentages, arithmetic average, standard deviation, Pearson coefficient of association, variation F. The researcher concluded from the statistical analysis of the data that there are significant differences in both the physical and skill characteristics of Algerian football originators between different regions as the player in the Sahel has the skill side and the player in the South has the physical qualities.

The second study was a doctoral thesis at Abdul Hamid Ben Badis Mostaganm University (2007) for: Ben C. Kaddour Habib, this study was conducted on: setting standard levels for the selection of young pupils (12-13) Year of athletics quadrilateral competitions in some states of the Algerian West, this study aimed at identifying some standard levels in the light of a proposed test battery for the selection of juniors in some type of competitions installed in athletics (Enemy 60 m, payment of the jelly, long jump, running 1200 m), the researcher used the descriptive curriculum to fit it into the nature of the research, which was conducted on a sample of 3,929 individuals that included both physical education professors and middle schoolers (12-13) Year and athletics trainers, with 250 middle education physical education teachers distributed a questionnaire.

60athletics trainers distributed a questionnaire, 609 pupils and 2010 pupils with a range of physical and skilled tests to gather information and data, which I subject to the statistical treatment of percentage, intermediate, like computational average, standard deviation, range,  $c^2$ , Pearson correlation coefficient, Torsion coefficient, grade T, grade M, standard levels, and in the light of statistical findings and analysis the researcher finds that the pupils' achievement (12-13) A year in all test vocabulary of the proposed battery is distributed naturally, a number of emerging pupils are within the excellent standard level, and the majority of the results of the research sample in the standard scorecard variable reflecting the proposed battery's total performance are within the standard level is acceptable and good.

An Algerian PhD thesis (2007) for Ben Brno Osman, conducted on: "Benchmarking through a battery tests to evaluate some basic skills in group games handball, volleyball, basketball." Aims to: propose a battery tests with standard levels attached to standard grades and a drip ladder to evaluate some basic skills in handball activity, volleyball and basketball for secondary pupils as well as know differences in pupils' performance level in group games between regions (plateaus, coast, south), as well as proposing a method for a calendar process based on a software application in automated media in studied group games. The researcher used the survey descriptive curriculum to fit the nature and objectives of the research, which was conducted on a sample of (female/male) secondary school pupils enrolled in the school season (2004/2005). The researcher relied on the questionnaire and skill tests to collect information and data and used the following statistical means to address them: Percentages, arithmetic average, standard deviation, Pearson coefficient, variation F. The researcher concluded from the statistical analysis of the data that the sample (male/female) was heterogeneous in the collection of tests, and that there was a discrepancy in the level between states in all tests. The research sample data was mostly at the intermediate level for both males and females, according to standard levels, and the drip ladder.

The fourth study of Osama Ahmed Hussein al-Taai and Mustafa Abd al-Zahra Aboud (2010), Baghdad, entitled: Set standards and levels for some health-related fitness elements for pupils of age (11-12 years) in Baghdad, the study aimed at identifying and establishing benchmarks and levels for some elements of physical fitness for pupils of age (11-12 years) in Baghdad, the researchers used the descriptive

curriculum, and the research sample consisted of 1025 Pupils from the Second Pavement and Second Decoy Education Directorates, and the two researchers concluded that there was a clear weakness in the 11-year-old and 12-year-old research sample in the fist strength variables and the abdominal muscle strength table, while the research sample achieved good levels of flexibility.

I.1- the study's problematique: the current study sought to answer the following questions:

- What are the standard levels of digital grades for long jump activity and payment of the jam in pupils (15-16) years

- There are statistically significant differences in the digital levels of long jump activity and payment of the jelly by age (15 and 16) years

I. 2. Objectives of the study: The research aims to:

- Setting local benchmarks with a dot ladder for long jump activity and paying the jelly according to age 15 and 16.

- Identifying the possibility of statistically significant differences by age in the digital scores of the two activities mentioned.

I.3- of the study's assumptions: the two research hypotheses were drafted as follows:

- The data are distributed naturally for long jump testing and jar propulsion, and the levels obtained converge on what it is in the natural dive distribution curve.

- There are statistically significant differences by age 15 and year in the digital levels of long jump activity and payment of the jelly.

Definition of study terms:

- Educational Unit:

Terminological definition: Standard degree: A degree where each individual expresses on the basis of modular deviation units to his or her average degree. (Hassanine, 1996, p. 40)

Procedural definition: the degree to which an individual's level is expressed compared to the group to which they belong within the research sample.

- Levels: Levels are similar to standards in that they are internal bases for judging the phenomenon in question, but differ from standards in two respects: they take the qualitative picture and they are determined in the light of what the phenomenon should be. (Mohammed Sobhi Hassanin, 1996, p. 41)

Procedural definition: The formula is how it expresses and corresponds to the standard degree to which we compare the levels of individuals in the tests in question.

- Criteria: One of the benchmarks for evaluating individuals' recorded numbers in the light of average and standard deviation, so that standard levels (raw scores) can be established to standard scores that make it easier to compare, collect and statistically process all results. (Khater, Beke, 1996, p. 77)

The criteria are a component table within the test instructions, which are the scores on which individuals work relative to the total of other individuals, because the raw scores drawn from the application of the tests have no meaning or significance unless we refer to a criterion that determines the meaning of these grades to reach the criteria. (Mohammed Sobhi Hassanin, 1996, p. 450)

Procedural definition: The ultimate result of the transformation and statistical processing of raw grades into standard scores that affect us in digital areas that determine the value levels of sample individuals.

-Evaluation: The term "evaluation" refers in its general sense to the act we do to judge a juvenile, a person or a subject, by reference to a particular criterion, or several criteria, whatever these criteria. It is a procedure whereby the learning results obtained by the pupils can be tested and the decisions made to judge these results. ( Franc Morandi et René la Borderie,2006, P120(

-Selection: Linguistic means choosing something. (Ben Hadia, Belish, Yahya,1991, p. 108(

Thiel and Kaja defines it as a continuous method of selection applied to a sample of individuals, and aims to select the best athletes at different stages of time for physical preparation, by establishing controls that allow their selection according to enforceable scientific bases and helping them to choose the competition

Abu Zeid also defines it as the choice of the best elements with specific components and determinants whether inherited or acquired, to join a particular sports game while predicting the extent to which the long training process in the future will affect the abilities and preparations of these elements in a way that enables them to reach the best levels of high sports. (Abu Zeid, 2005, p. 63(

- Long jump: The long jump is a simple activity in its performance, especially at the early stages of its learning, not only in the field of athletics, but for various sports games and events. Thus, schoolchildren accept its performance without a teacher, hence its importance as a school physical activity. Alan Trunkal is one of the main pillars of jet training. (Alain Tronqual, 2002. p4)

## **II - Method and tools:**

II-1 Research methodology and field procedures for study:

II-1-1 Research curriculum: Researchers used the descriptive curriculum to fit it and the nature of the study.

II -1-2 Research areas:

Time field: School season 2022-2023.

-Human area: survey sample of 6 male pupils as the first reconnaissance stage and 31 male pupils as the second reconnaissance phase of the non-basic study sample and the research community, and basic study sample of 472 pupils (male) from six secondary schools of the municipality of Brick- State of Batna.

-Spatial area: Secondary fields and stadiums under consideration {see Table No. (2)

Data Collection Tools II-1-3: Due to the nature of the study, both long jump tests (m) and shot put (04 kg) (m) were selected.

II-1-4 Exploratory experience: Two exploratory phases were conducted prior to the commencement of the basic study.

-The first phase of the survey: This phase was conducted in an eye composed of (06) pupils chosen in a deliberate manner through the autonomy of researchers and from the research community. The aim of this experiment was to know the problems and difficulties faced by researchers in applying the experiment, as well as the appropriateness and relevance of the devices and tools for measurement, and to know

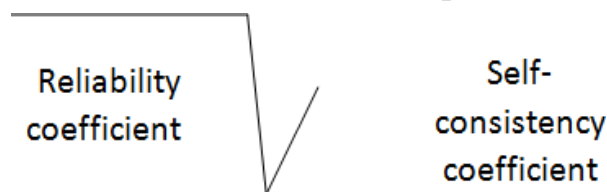
the time needed to perform the test and the validity and suitability of the research test forms.

-The second phase of the survey: This experiment was conducted on a sample of (31) pupils selected in a random manner from the research community, and after exactly a week the test was retested. The purpose of this experiment was to find a factor of honesty and stability.

II -1-5 Scientific foundations of tests:

-Calculation of honesty: To make sure the tests used are honest, researchers calculated self-honesty.

Self-authenticity of the test is the experimental scores of the test attributed to real grades free of measurement errors, and self-truthfulness is measured by calculating the square root of the test stabilizer (Rizwan, 2006, p. 226), i.e.:



- Test Stability: The researchers calculated the stability of the tests used in the study by reapplying the test through conducting it on 12 students from outside the research sample but from the same research community. The following table illustrates this: Table No. (01): Illustrates the results of the skewness coefficient, reliability coefficients, and self-authenticity for the survey experiment results:

Test	Skewness Coefficient	Normal Distribution Significance	Reliability (Pearson)	Self-Authenticity
Running	Long Jump	Test: 0.15	Distributed normally: 0.97**	0.98
		Retest: 0.12	Distributed normally:	
Push-ups	Glute Bridge	Test: -0.13	Distributed normally: 0.90**	0.95
		Retest: -0.08	Distributed normally:	

Note: The asterisks (\*) indicate statistical significance.

The following table illustrates the number of selected student samples according to each primary school and gender:

Table (02): Shows the sample of selected students according to each elementary school and by gender.

Number	Secondary School	Number of 15-Year-Old Students	Number of 16-Year-Old Students
01	Martyr Mohamed Salah Belabbas High School	41	34
02	New 1000 High School	44	33
03	Nasr District High School	32	37
04	New Nasr District High School	36	36
05	Azil Abdelrahman High School	45	66

Number	Secondary School	Number of 15-Year-Old Students	Number of 16-Year-Old Students
06	Dernani High School	30	38
Total		228	244
Overall Total		472	

II -1-6-2: Normality of Sample Data Distribution in Research Tests: The researchers calculated the skewness coefficient for the research tests to ensure the normality of the data distribution. The II-1-6-2: Normality of Sample Data Distribution in Research Tests: The researchers calculated the skewness coefficient for the research tests to ensure the normality of the data distribution. Table No. (3) illustrates this: Table No. (3): Shows the significance of the normal distribution for the research tests. Following table (Table No. 03) illustrates this:

Table (3): Indicates the significance of the normal distribution for the research tests.

Test	Mean	Standard Deviation	Minimum Value	Maximum Value	Median	Skewness Coefficient	Significance of Normal Distribution		
Long Jump Test									
15 years old (228)	4.41	0.43	3.29	5.30	4.52	-0.46	Normally Distributed		
16 years old (244)	4.72	0.32	3.45	5.30	4.77	-0.75	Normally Distributed		
<b>Total Sample (472)</b>			<b>4.57</b>	<b>0.41</b>	<b>3.29</b>	<b>5.30</b>	<b>7.67</b>	<b>-0.60</b>	<b>Normally Distributed</b>
Push-Up Test									
15 years old (228)			8.04	0.92	5.90	11.00	8.02	0.29	Normally Distributed
16 years old (244)			8.75	0.99	6.30	11.20	8.66	-0.02	Normally Distributed
Total Sample (472)			8.41	1.02	5.90	11.20	8.46	0.16	Normally Distributed

Based on Table No. (3), it is evident that all skewness coefficients range between -1 and +1. Therefore, the results are normally distributed, enabling parametric analyses to be conducted.

Statistical processing was carried out using the statistical software package for social sciences (SPSS v28), formerly known as SPSS, to calculate the following: total, mean, standard deviation, minimum value, maximum value, Pearson correlation coefficient, skewness coefficient, kurtosis, median, t-test for two independent samples, and percentage.

Additionally, Microsoft Excel 2007 was utilized to determine the grades and standard levels (excellent, good, average, weak, very weak). To ensure the validity or rejection of the research hypotheses, the researchers transformed the raw scores obtained into standard scores using the "Gauss" distribution, also known as the normal distribution, which is employed in setting standard grades and levels.

It is worth mentioning, as noted by Mohammed Hassan Alawi and Mohammed Nasreddine Radwan, that the theoretical distribution curve is based on probability theory, and obtaining it depends on the nature of the data and the shape of the symmetrical curve. The more appropriate the tests used for the sample in terms of difficulty and ease, the more likely it is to obtain a symmetrical curve for the data.

The researchers used statistical equations to find the standard grades and levels and the modified standard scores sequentially, using Excel. The equations are as follows:

Standard Score = Mean + Constant.

Upper Limit = Mean + 3 Standard Deviations.

Lower Limit = Mean - 3 Standard Deviations.

Based on these equations, standard scores were used, where the upper limit of the distribution represents the maximum assessment score of 100, the mean represents the median assessment score of 50, and the lower limit of the distribution represents the minimum assessment score of 00. The direction towards higher or lower scores is adjusted by adding or subtracting the constant each time, considering the test's measurement unit to indicate the direction of the lower and upper scores of the test.

In a normal distribution, approximately (99.72%) of cases fall within three standard deviations from the mean, where:

- Between  $(\mu - \sigma)$  and  $(\mu + \sigma)$  lies 68.27%.
- Between  $(\mu - 2\sigma)$  and  $(\mu + 2\sigma)$  lies 95.45%.
- Between  $(\mu - 3\sigma)$  and  $(\mu + 3\sigma)$  lies 99.72%.

Furthermore, the area under the symmetrical curve extends indefinitely in the positive and negative directions. Therefore, the symmetrical curve represents the distribution of the measured phenomenon. Hence, it is essential to conduct this curve when standardizing tests and creating criteria; otherwise, selection standards become inaccurate.

It is noteworthy that Bruchon 2007 software was used to prepare the scoring scale

### III - Results and Discussion:

-12Presentation and Discussion of Results:

A- Presentation and Discussion of Results of Testing the First Hypothesis:

The first hypothesis states: "The data are normally distributed, and the levels obtained converge to those in the Gauss normal distribution curve".

Table No. (04): Shows the scores, standard levels, their ranges, and the specified percentages in the Gauss normal distribution curve.

Table No. (04): Shows the modified standard scores, their corresponding ranges, and the specified percentages in the Gauss normal distribution curve.

Number	Modified Standard Scores	Greater than 81	61 to 80	41 to 60	21 to 40	Less than 20
	Test	Standard Levels	Excellent	Good	Average	Weak
01	Long Jump Test	15 years	>5.20	4.69 - 5.19	4.17 - 4.86	3.61 - 4.16
		16 years	>5.43	5.00 - 5.42	4.57 - 4.99	4.14 - 4.56
02	Glute Bridge Test	15 years	>8.56	8.22 - 8.55	7.88 - 8.21	7.54 - 7.87
		16 years	>10.59	9.40 - 10.58	8.21 - 9.39	7.02 - 8.20

Number	Modified Standard Scores	Greater than 81	61 to 80	41 to 60	21 to 40	Less than 20
Corresponding Percentage in the Normal Distribution Curve						

Table No. (05): Shows the frequency and percentage of occurrences for each standard level in the normal distribution curve.

Number	Test Type	Age	Excellent	Good	Average	Weak	Very Weak
			%	%	%	%	%
01	Long Jump Test	15	0.87	14.91	56.14	23.24	4.82
		16	0	22.95	50.41	21.72	4.92
	Total		0.42	19.07	53.18	22.46	4.87
02	Glute Bridge Test	15	33.33	9.65	10.96	10.09	35.96
		16	2.46	30.74	36.06	25.82	4.92
	Total		17.37	20.55	23.84	18.22	19.91

Corresponding Percentage in the Normal Distribution Curve: 2.14, 13.59, 68.26, 13.59, 2.14

Through Table No. (05) and Figure No. (2), it is observed that in the Long Jump Test, the results were somewhat consistent with those expected in the normal distribution curve. The higher percentages were for the average level, followed by weak, good, very weak, and excellent levels. Researchers attribute the spread of sample results in the average, weak, and good levels, aligning with the normal distribution curve, to the fact that long jump activity is highly favored among students, especially males. Long jump is one of the fundamental natural individual athletic skills, hence it's natural for the distribution to be normal, especially considering their previous activity and experience in the middle school stage, where such activity holds a special place within the physical education curriculum.

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