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FUNCTIONAL TRAINING AS PHYSICAL PREPARATION METHOD IN THE PERFORMANCE OF CHESS PLAYER AGED 6 TO 12 FROM THE PEGASO CLUB OF THE CITY OF TLAPA DE COMONFORT, GUERRERO

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Abstract

Chess is related as a sport that does not promote body movement and focuses only on the theoretical part. This study aims to observe the improvement in players' performance through functional training, which consists of weekly sessions adapted to the requirements of each player and obtain the progress results.Functional training is one of the most current methods focused on improving physical capabilities and, above all, the functionality of the body through movement, which aims to generate multi-joint exercises to work the body as a whole and not only as isolated muscles, the benefit of training is that it can be adapted to any sport and athlete with a professional or amateur level.

Chess has its origins in India and dates back to the 11th century BC, it was in the year 1746 when Philidor acquired the honors of the best player in the world. And it was a fundamental pillar in laying the foundations of chess as it is known today. The game has a board of 64 squares and 32 pieces whose purpose is to checkmate the opposing king through the development of the pieces of each side, coordinating them and creating strategies to achieve these objectives. It was in 1851 when chess began to be promoted so that it was considered a sport and in 1886 the first game was played for the official title of world champion, obtained by the player Steinitz from Austria.

Nowadays it is one of the sports that is practiced throughout the world thanks to its great contributions and benefits to the health of those who develop it.

Keywords: Chess, sports, training, sports training

Introduction

When we talk about sports, the vast majority relate them to functions. Muscular or physical exercise, but currently there are different disciplines where cognitive work and brain power are involved within it Chess is one of the sports that is perceived as one of the least valued in the sports industry, leading to the question if it can actually happen recognition as a sport, since there are no movements or sporting issues like the rest for their practice, and that the simple fact of Sitting in front of an opponent for hours does not make it a sport. Currently, the progress of different research has managed to relate the importance of the nervous system in physical practice for the benefit of chess. Its intense days manage to have the same weight as another Olympic discipline. Tournaments can last several hours and even weeks for which the body. The participants must be prepared both physically and mentally to face this competition. Research carried out by the University of Extremadura, Spain (2019), proposed how the chess player not only involves mental processes, but also It also involves physiological aspects. Through this study through an electroencephalogram, it was observed that there was a slight alteration in Theta brain waves, important for attention directed and receptive to complex information.

The educational analysis of the problem.

Chess is a strategy game in which two people challenge each other in front of a squared board with 64 squares and two groups of figures, 16 for each player, some white and some black: a king, a queen, two bishops, two knights. , two rooks and eight pawns. The International Olympic Committee (IOC) considers it a sport and the International Chess Federation (FIDE) regulates international competitions. The objective of chess is to overthrow the opponent's king and, to do this, each player must try to approach the square occupied by this figure and press until it is unprotected, and he can say checkmate. Game over. (BBVA, 2024)

Claiming chess 'just a game' because it is rule based, and therefore unworthy of undue attention, is a tautology (self-explanatory) and explains nothing. Mind you, the activity we call life may also be perceived to be a game with rules and recipes. When asking if chess is a sport or athletics, what we're really asking is if chess players perform, and more so, in the physical sense of the word (Vik-Hansen, 2022)

In the state of Guerrero there are no official tournaments by the state chess association (FENAMAC) for this reason the "Pegaso" chess club located in Tlapa de Comonfort Guerrero has a database created by the coaches where it is analyzed. and the progressive progress of the players in the municipality is measured, the same statistical analysis will help to know the level at which the chess player is in order to subsequently carry out said review again and observe if changes were achieved in the results (rating) with a previous physical preparation of the rest of the players.

The lack of physical preparation can cause serious problems in the athlete who practices this sport. In research carried out at the Moscow Institute of Physical Culture in 1987, we emphasize the importance of physical preparation to prepare a chess player "mental effort without movements." muscular and with excitement of the central nervous system can cause serious psychological problems" (Alonse, 2017), understanding that the athlete must be prepared to be able to resist the effort to which he or she is subjected. There are known cases in which the weight of the players has decreased from 4 to 8 kilos during an important tournament and experienced physiological changes such as tachycardia, contractions that increase heart rate and blood pressure, which causes unfavorable performance.

Daniel Jacobs, a sports medicine specialist, emphasizes that to achieve greater oxygenation to the brain, physical preparation is necessary, this implies that the entire body has to be healthy. (Alonse, 2017)

According to the specialist, the number of hours in charge of a game, plus the nervous tension that it entails, entails an expenditure of physical energy; without good anatomy, your intellect could not be developed.

For an athlete in the chess area to reach the competition in the best possible way, it is necessary to have developed cognitive improvement and the development of different abilities that the sport demands prior to its tournament. The childhood stage will be a fundamental part in the acquisition of different skills for which sessions appropriate to the requirements that each child needs for the benefit of the game and primarily their body are planned.

In a study carried out by professor that both players have different ortho sympathetic repercussions that state that the nervous, hormonal and cardiovascular systems are involved during the duration of the game.

Dr. Xavier points out that "the outlined notions of nervous stress, cardiac stimulation, physical contraction and competition without influence of luck". They contribute arguments for chess to be admitted in the field of sports activities" (Alonse, 2017)

In some countries like Spain, chess is a sport that is a basis of school curricula, thanks to the benefits and support it provides with other subjects, however, in Mexico it has not yet been given the expected boost. . In 2018, "xecball" was created, an invasion sports game, created by Gustavo Martínez Serrano, which unites chess with physical activity and sport.

The author points out that "The strong point of the innovative experience of xecball is, primarily, the way of introducing chess in the subject of Physical Education, in the search for a proposal with greater motor value than that shown in traditional teaching." (Serrano, 2008)

With this new recreational strategy, the implementation of chess will be achieved as a pre-sports game that will generate movement while it is executed and at the same time learning about its practice. The objective of the game is to be able to perform physical activity while the students recognize what movement they will perform accordingly. to the corresponding piece and thus know the rules of the game while the dynamics develop, at the time of the official practice of the game the student already has a notion of it and achieves easier and more meaningful learning.

Problem Statement

Physical preparation has always been fundamental for the development of any athlete to arrive at their discipline as prepared as possible, each sport has its different techniques and must be worked in different ways to achieve the expected results.

A very particular sport is chess, considered sport science due to its form of application and the relationship it has with the mind, but despite the fact that the game requires great concentration and mental work, athletes continue to train only the theoretical part in your training sessions, forgetting that the physical part will be a primary factor in the game, although the game does not require relative strength, much less a contact dispute with your rival, it will be essential to have better physical and intellectual performance. They must have an adequate posture that will help you during your chess game, delay the presence of fatigue during a tournament or hours of training and, as a main pillar, the cognitive work that will generate in the athlete to make better decisions in a clearer and more precise way. , to predict the development of the game, and thus be able to achieve a more complete work in the theoretical and physical part for the benefit of the athlete.

In the “Pegaso” chess club, it has been observed that students during long days of work, whether in tournaments or training practices, generate a state of stress, fatigue and muscle pain, causing their performance to decline significantly in their last games. emergent and the result for which we worked is not achieved.

Therefore, the aim is to develop theoretical and physical work for the best performance of chess players, using functional training as a methodology which adapts to different ages to generate various skills for our athletes.

GENERAL OBJECTIVE

Stimulate the physical and intellectual performance of the chess player through physical preparation structured to the needs of each child in the “Pegaso” chess club of Tlapa de Comonfort, Guerrero during the period January-July 2024.

SPECIFIC OBJECTIVES

- To evaluate the performance during chess tournaments of children from 6 to 12 years old through physical preparation prior to their matches.
- Compare the physical performance of children from 6 to 11 years of age in chess tournaments with prior physical work and only with theoretical work.
- Identify the performance progress of the Pegaso club students through a database (municipal rating)

Justification

Every sport needs physical preparation for its practice, which will be reflected in each of the results, chess is no exception, it is a sporting discipline that plays a fundamental role in the athlete's health, both physically and psychologically, if There is no balance between both parties, we will cause a dropout from the sport due to the level of stress that children begin to feel at that stage in competitions, other physiological factors are cognitive fatigue and tachycardia that usually occur when there is no prior preparation for In these tournaments, the study presented aims to ensure that children from 6 to 12 years old are prepared for all those changes that occur in a tournament, that the nervous system and brain are prepared to withstand different games on the same day, through training. stimulate the brain to be able to execute different actions, provide adequate and optimal postures so that our spine is prepared to spend hours in a single position, helping to postpone muscular and cognitive fatigue, along with this improve memory, attention, increase serotonin levels, reducing anxiety and depression that can occur in each gaming situation, helping to improve cognitive function.

This research is produced by the concerns and the scarce information from studies of the physical preparation and the theoretical practice of chess that children from 6 to 12 years old carry out and to identify if there is a relationship between what is applied to improve their performance within their participation. weekly and quarterly of their tournaments. nance and improvement of health and helps to cope with diseases and their complications. As an example, controlled, regular exercise has a basic role in the therapy of obesity and carbohydrate and lipid metabolic disorders in developed countries. Moreover, sport has favorable psychological effects as well. It contributes to health awareness, youthfulness, makes one feel fit, helps develop regularity and increases the ability to define priorities. Stamina, need for development, aspiration for victory in a fair competition and enjoying success are all parts of sport (Zoltán, Maté, Mihaly, Imre and Tamás, 22022)

For this entire structure, cognitive preparation has to be present in most sports to achieve the desired result. The sport of chess is one of the main sports in this methodology. The work has to be theoretical and physical to be able to generate competition. equality with different sports clubs, if we cannot change the stereotypes that

chess is only a matter of theoretical preparation, we will never be able to generate the results expected in the regional and national stages as representatives of the mountain region.

In the middle childhood stage, children with different aptitudes and attitudes are observed that are difficult to modify or correct only with theoretical work. Work through play or physical activity is essential to generate the activation of the children, more attention, discipline and, above all, preparation. macular that they need to be able to play a 2-hour game. The issue of chess in Bolivia and its socio-educational effectiveness is addressed. e main objective of the study was to analyze chess applied to education to understand its impact on the comprehensive training of students. (Paco Vargas, 2023)

With the aforementioned recreational strategy "xecball" the implementation of chess will be achieved as a pre-sports game that will generate movement while it is executed and at the same time learning about the practice of it, the objective of the game is to be able to perform physical activity while the students recognize What movement they will perform according to the corresponding piece and thus know the rules of the game while the dynamics develop, at the time of the official practice of the game the student already has a notion of it and achieves easier and more meaningful learning.

It is important to structure adequate physical preparation for each chess player, distributing the physical and theoretical sessions over a certain time to identify if the results are favorable to the benefit of the club for the next tournaments to represent.

Parental support is very important to carry out the research. Their support will be an important part of obtaining the expected results. Parents must be willing for the child to do physical work to identify performance. expected optimal.

Today's parents emerge into the world of chess thinking that it is just a mental game and that their children will only be receiving the information they need from the teacher, ignoring that the child must have a practical part in which we can further develop the nervous system and obtain the greatest potential through that practice.

Method

According to data obtained from tournaments and internal leagues within the “Pegaso” club, progress has been stagnating, resulting in slower progress, for which physical practice is involved in this research in order to obtain better results.

The research is generated with 15 children who are subject to theoretical and practical sessions at the “Pegaso” chess club and at the “Functional wellness” physical training center in Tlapa de Comonfort Guerrero. During this process they were divided into 4 theoretical days and 2 practical days.

It should be noted that the sample of children studied are children who have academic performance within normality, but with different indicators reflected in the lack of adequate physical activity, pointing out that their physical practices are scarce in the development of physical abilities, both physical coordination and conditionals.

To develop this study, the following methodology is followed:

- An internal chess league is created on weekends to measure the progress of each of the children, with the obtaining of “Elo” (mathematical method, based on statistical calculation to calculate the relative ability of chess players).
- It undergoes physical preparation processes for an established time to measure the children's performance with both suggested practices.
- The problem is determined considering the elements of the diagnosis and a correlational investigation is carried out.

At the beginning of the field tests we began with the theoretical phase during January to March with the division of the 15 children subjected to subdivisions which are generated at a basic, intermediate and advanced level, each subsystem is exposed to the requirements they need. As part of the evaluation, an internal league is created to create the competition and practice with each of them in the corresponding category twenty carrying out this league on Saturdays from 11 a.m. to 11 a.m. to 2:00 p.m., the theoretical part that is taught with the support of the Lef. Rodolfo Gonzales Mosso is offered from Monday to Thursday from 4:00 p.m. to 6:00 p.m. in which the updating of game rules, game systems in competitions, annotations on match sheets, different openings that will be put into practice during the development of the match, mate problems, the use of implements such as the clock are established. , and the score sheet, all of the above to generate chess players with skills and aptitudes to recreate the game.

The next phase of this research process is the implementation of the physical preparation developed in the discipline "Functional Training" which consists of sessions 3 days a week with a duration of 1 hour per class, where proprioceptive work is generated. cognitive, strength and resistance, to generate in the chess player more

appropriate postures, stronger muscles and the most oxygenated part of the brain, for which certain implements are used that will help speed up this process such as:

Vector ball ® will be a cognitive vision training tool, which improves athletic reaction speed, focus, concentration, agility and coordination, which is designed for different sports and ages.

ZKLZ ® Catch Trainer one of the main functions of the implement will be to improve hand-eye coordination and speed.

Saq-reac-04 ZKLZ ® its main function is to develop reaction speed and improve reflexes

During the physical process, we work with the athletic intelligence of the products, which are designed to develop specific skill sets and combine exercises with gestures that will benefit the sport being worked on.

The use of the programs or software will help the research to make training more attractive and recreational since the ages that are worked on in this research require it, among the programs that will be managed are the “swichedON-reaction trainign” and “Light training ” that would provide chess players with better reaction time, agility and decision making.

After 8 weeks of theory, day number 9 of the league takes place and the first to be carried out with a prior start of physical preparation where, through observation and the “chess manager” software, results and the progress of each chess player will be generated.

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All chess players undergoing physical and theoretical work will start with an Elo of 1000 points, where their progress will be identified through results each weekend during the league. In the follow-up of the investigation, it is possible to identify that:

- Students exposed to physical preparation generate a harmonious state of the body twenty-one for the practice of the science game during tournaments.
- The children's body postures consciously changed in a positive way by spending several hours in front of the chess board.
- Muscle fatigue in different areas occurs less continuously during hours of games.
- Concentration and brain oxygenation is reflected now of inhalation and exhalation during your chess game.
- Logical thinking and the pace of play are significantly modified during the league games they undergo each weekend.
- The Elo of the members subjected to physical preparation has been increasing progressively during each match.
- The children have managed to beat rivals with higher ratings than them with podium results in each exposed league.

Findings

Raiting Graphics

Matchday 9 Pegaso II League - Initial
AUT elo statistics

No.	NAME	FED	Elo	Pts.Eval.	Part.Eval.	EloN-Ø	Elo+/-	New Rating
1	Gregorio Garcia Emilio	MEX	1000	3	4	1018	55.0	1055
2	Flores Refugio Aylen Abril	MEX	1000	3	4	1000	50.0	1050
3	Cuevas Garcia Oliver Aleph	MEX	1000	3	4	1045	62.0	1062
4	Dircio Romero Said Santiago	MEX	1000	3	4	1000	50.0	1050
5	Martinez Morales Samuel	MEX	1000	2½	4	1065	42.5	1042.5
6	Castanon Rojas Inti Tumaini	MEX	1070	2½	4	1000	5.0	1075
7	Hernandez Cortez Kevin Daniel	MEX	1180	2	4	1000	-47.3	1132.7
8	Galvez Rodriguez Carlos Fabian	MEX	1000	2	4	1048	12.5	1012.5
9	Juarez Prado Cielo Nahomi	MEX	1010	1	3	1000	-26.5	983.5
10	Perez Martinez Natanael	MEX	1000	1	3	1023	-20.0	980
11	Perez Martinez Renata	MEX	1000	0	2	1035	-45.0	955
12	Victoriano Flores Eller Sahen	MEX	1000	0	3	1063	-62.5	937.5
13	Roman Romano Rosi	MEX	1000	0	3	1000	-75.0	925

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Matchday 12 Pegaso II League - Intermediate
AUT elo statistics

No.	NAME	FED	Elo	Pts.Eval.	Part.Eval.	EloN-Ø	Elo+/-	New Raiting
1	May Sierra Joaquin Arquimides	MEX	1280	4	4	1110	49.9	1329.9
2	Pantaleon Nepomuceno Leonardo	MEX	1049	2	3	1215	57.5	1106.5
3	Meza De Jesus Cesar Angel	MEX	1165	2	4	1159	-1.5	1163.5
4	Solano Vazquez Alex	MEX	1201	1	3	1093	-45.0	1156
5	Garcia Gonzalez Evolet Guadalupe	MEX	1066	2	4	1186	31.5	1097.5
6	Venancio Cano Wilber	MEX	1104	½	3	1130	-44.5	1059.5
7	Ramirez Ayala David Maximiliano	MEX	1158	½	3	1150	-52.0	1106

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Matchday 12 Pegaso II League - Advanced
AUT elo statistics

No.	NAME	FED	Elo	Pts.Eval.	Part.Eval.	EloN-Ø	Elo+/-	New Raiting
1	Hernandez Pablo Adair	MEX	1465	3½	4	1268	21.3	1486.3
2	Roman Sierra Maria Fernanda	MEX	1370	3	4	1215	9.9	1379.9
3	Cantu Leal Leandro	MEX	1430	2½	4	1192	-22.1	1407.9
4	Martinez Ponce Carmelo	MEX	1090	2	4	1347	58.5	1148.5
5	Ambrosio Colima Zeidy Fernanda	MEX	1182	½	3	1309	-26.6	1155.4
6	Flores Garcia Angel	MEX	1092	½	2	1306	0.0	1092
7	Gonzalez Neponuceno Thiago	MEX	1122	0	3	1297	-43.5	1078.5

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Discussion - Conclusions

In the research process of physical preparation and theoretical chess, it has shown the significant improvement that the sample population from 6 to 12 years has achieved, these improvements are reflected when playing chess and physical preparation, since for hours of games they execute take a much more correct position, speaking of a correction of proper posture when sitting in a chair, adding that “Since 1968, the government of the State of Mexico has promoted, among girls, boys and adolescents in basic education, the systematic practice of different disciplines sports, strengthening physical and sports culture, socio-emotional development and human, as well as values such as solidarity, respect, discipline and play clean, keeping them away from a sedentary lifestyle and addictions.” (

Another important aspect is the motor skill that the sample has acquired as it has passed the physical training linked to functional training, the cognitive part and thinking before acting is one of the main points in favor, which is an achievement for the present research, including the work achieved with the cerebral hemispheres positive points that supported this research to achieve its goals. Another main point is that the sample has been motivated

by physical activity by acquiring the habit of generating movement knowing that chess must be a planned process for better results, the result has even been reflected in tournaments. The objective is then achieved when all chess coaches have physical preparation within their teaching and planning, as well as logical reasoning and stronger muscles after each training make it more significant, making the sample have more resistance to time to generate a functional circuit and in tournaments of work hours delaying the fatigue present from the first games, thus this process helps each studied individual achieve better performance in the cognitive and mental process.

Proposals

- Chess and physical preparation must be present as a fundamental point to achieve success.
- Each theoretical sequence must include activity breaks during the process to obtain better results and obtain knowledge.
- The creation of physical games related to chess will be a point of motivation and capturing the attention of chess players in childhood stages.
- Identify the abilities and qualities of each child to obtain an improvement in knowledge before subjecting them to a theoretical and physical process.
- Explore how a specific physical preparation influences the child with more training sessions during the week.
- Know the physical results that each child acquires as their physical preparation develops.

References

Andres, S. C. (2020). ides.us.es. Obtained from idus.us.es: https://idus.us.es/bitstream/handle/11441/107957/ANDR%C3%89S%20SALAS%20CORT%C3%89S%20Ed.%20Prim%2020.pdf?sequence =1&isAllowed=y Boyle, M. (2017). Madrid: Tutor; First edition.

BBVA. (s/f). Chess, a sport that stimulates the mind. BBVA My retirement. Recovered on June 20, 2024, from https://www.jubilaciondefuturo.es/es/blog/el-ajedrez-un-deporte-que-estimula-la-mente.html

Gob.mx. (2024) Retrieved on June 20, 2024, from https://ade.edugem.gob.mx/bitstream/handle/acervodigitaledu/65815/15EEF0118L_Portada_Conocimientos%20básicos%20del%20ajedrez.pdf

Sage. Alonse, A. (January 26, 2017). pressreader. Obtained from Physical exercise in the chess player: https://www.pressreader.com/mexico/periodico-am-express-san-francisco-del-ricon/20170126/281818578549078

Sergio, V. M. (2011). The physical preparation of a chess player. EFsports. Obtained from EFdeportes.com.

Serrano, M. S. (2008). Xecball The New Motor Chess. Spain: Wanceulen.

Paco Vargas, Marco Antonio (2023). Chess and its benefits in schools in the city of La Paz. Franz Tamayo Magazine. Latin American Education Network, Bolivia ISSN-e: 2710-088X. Periodicity: Quarterly. Vol. 5, no. 13.

Vik-Hansen, R. (2022). Is chess a sport? ResearchGate. https://www.researchgate.net /publication/364309801_Is_chess_a_sport

Zoltán MEDVEGY1, et.al (2022) Does Playing Chess Strengthen Resilience? Studia Ubb Educatio Artis Gymn., LXVII, 3, 2022, pp. 5-18.