

**26 - SCHOOL CHESS - A SPORT WITH A FOCUS ON CHILD GLOBAL COGNITIVE DEVELOPMENT**

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**1. INTRODUCTION**

Chess has long been present in society, people of great importance in the history of the world, such as Benjamin Franklin and Albert Einstein, had contact with the game and recommended their practice; not only for being a game, but for coming with several intellectual and character benefits.

Chess is relevant because of social, cognitive, and emotional factors, issues that aid student achievement in school. According to the National Curricular Parameters (PCNs). Chess should be part of the elective activities that students can and should perform at school.

Nowadays, more and more educators are discovering the total and partial benefits of the practice of chess, bringing together more and more adepts, who are willing to spread the noble game, both in the sports field, as well as a didactic and pedagogical tool, due to the pleasure and benefits that the even though they do, it is with focus on these factors that some schools have already implemented chess as an indispensable game for all students.

In the conception of BLANCO (2008), there is a consensus that the school has as a priority the duty to promote both the individual cognitive potential and the developing independence of the capacity to choose for oneself and to express principles and opinions in an autonomous way.

The school now has a need to seek new ways to improve teaching, and chess may be one of the options to facilitate this challenge

**2. THE CHESS AS SPORT**

When we hear about sport, we soon associate ball activities that require physical exertion, with large calorie burns. Searching the dictionary we find the sport as: "the set of physical exercises practiced with method, individually or in team."

For BLANCO (2008), an activity to be considered as a sport must:

"Be accessible to all": chess can be played by everyone regardless of race, creed, sex, and physical boundaries.

"Sports must apply the income principle": in order to achieve a satisfactory result of municipal, state and national tournaments and championships, the chess player must study and practice for hours in order to reach the maximum income. For this we find varieties of magazines, books and programs, which allow a great evolution of the chess athlete interested in his performance.

"A sport must be associated with physical activity": for any sport the body and mind must be in perfect "tuning", being part of a single context. In conventional chess, a match can last for many hours, accompanied by multiple tensions caused by tough positions, you must be in perfect physical and mental shape to withstand the physical and emotional demands arising from tournaments and high-level chessboard championships.

Therefore, because of the aforementioned, chess can be considered a sport, even because it is played in the form of sports in various places in the world and at all levels.

**3. COGNITIVE DEVELOPMENT IN CHESS**

According to Piaget (Seber, 2007), school education is understood as necessary for cognitive and personality development. In this context, the importance not only of curricular content, but also of extra-class subsidies capable of facilitating cognitive development, is where chess fits perfectly.

The chess school study should be associated to the individual's psychic development, respecting their desires and goals, acting as a facilitator of the development of the cognitive process in a "soft" and playful way, so that students can enjoy and feel free to continue or not in the teaching program, soon the cognitive characteristics of chess will begin to take effect.

For KLEIN (2003), "chess teaching is of immeasurable importance in the education of children," based on the statement by Osterrieth (1969), where he says that the best stimulated children are, as a rule, smarter."

Chess is able to develop some cognitive processes: logical mathematical intelligence, decision making, intuitive thinking, and linguistic intelligence.

**3.1) Logic Mathematical Intelligence**

For SEBER (2007), at the stage of concrete operations, cognitive development is characterized by the emergence of two orders of operations: mathematical logical operations and infalogic operations. It is understood by logical mathematical operations possible in numbers and or sets, is characterized by sums, multiplications, classifications, symmetric and asymmetric relations.

According to BLANCO (2008), the ability to think, calculate and manage mathematical logical reasoning is implicit in the chessboard from the coordinate system or dual input matrix, in the mathematical language used and in the infinite world of movement possibilities of them combinations of these with the pedestrians, in the variants and sub-variants and in the various games that can be carried out with said figures on the board.

The question of mathematical logic is also present in the "variants" of the game, (variant in chess are the possibilities of movement for each throw), the level of the player is in relation to his experience, study and reasoning ability, let's say that a certain player can analyze at least six moves ahead, when in a starting position there are 5 possible variants means that for each throw of these variants opens up more innumerable possibilities of game, becoming for the chess player an extremely difficult task, since you'll have to calculate the bids of the variant and more its ramifications, making it impossible for an amateur to see the total amount of the right or wrong bids to play.

For Almeida (2002) there are some situations of mathematics that require emotional control of the student, which is often indispensable and necessary to achieve the best response and direction of the problem.

These factors mentioned above can be found in chess when used consistently within a chess teaching program, respecting levels of cognitive development.

According to Almeida (2002), chess "imposes" the apprentice planning and strategy norms, besides a series of judgments that the player must do, because there is a limitator that relates the interdependence between the plays (previous and the opponent).

For Oliveira (2005), chess is also considered as an excellent means of raising the intellectual level of people, teaching the management of numerous logical mechanisms and contributing to the development of certain psychic and even physical qualities.

All previous citations demonstrate that the practice of chess is a great element of great value for the development of diverse forms of reasoning, acting with a powerful intellectual tool.

### 3.2)Decision Making

According to Piaget (apud Goulart, 2009, p.63), in the concrete operational period, egocentrism regresses and these actions are replaced by operations, which are internalized actions (knowing the real implies thinking about it) and reversible actions to the point of departure or be nullified by a mental operation).

In chess the decision making is related to matches, after a detailed analysis of the position, it is mandatory to choose only one play, which the player determines as the best, among many options, without any external help, taking full responsibility for this attitude . The decision of the chess player when executing a particular move is linked to the tactic and / or strategy used by the player. The decision taken becomes an action based on a goal, which reveals the efficiency of the decision is whether it has been successfully achieved or not.

According to BLANCO (2008), after the analysis and synthesis of the bids, the child is more likely to identify the inner course of the game based on the identification of alternatives and decision making. In this phase the ability to integrate ideas and concepts, in a word, creative thinking is highlighted.

Decision-making in chess can not be summarized as a simple action, because before the action it is necessary to verify the present and future consequence of the analyzed bid, for a victorious follow-up of the game. A cautious analysis is always needed in search of a quiet, harmonious match with a greater chance of victory.

Decision making must be linked to the time factor, which tells how fast a decision will be made. According to Goulart (2009), the concept of speed depends on the establishment of a relation between space and time.

During a tournament, the chess player is in front of the positions of the pieces on the board, the opponent's and the chess clock, which is set a certain time for each player to perform a number of moves if the player can not perform all the bids in the predetermined time this will consequently lose the match.

For Blanco (2008) the notion of time is related to the understanding of the temporal sequence of actions and their duration. This acquisition allows the child to understand the conventional measures of the same. The perception of time and the way of rational handling of the same together with the decision making, are necessary and fundamental aspects of the game.

In this way, the variables of time and space, as well as the decision making are essential to the game of chess and this chain of actions allows an intellectual development in the student chess player.

### 3.3)Intuitive Thinking

In a game of chess, when it is halfway through the game to the end, it is common for the player to enter into situations which require momentary action, due to the minimum time, as well as in lightning chess, in which the game is summarized in only five minutes for each player. In these situations the time does not allow a detailed analysis of the variants to be played, and the decision making must be very fast. In this context intuitive thinking arises with great importance.

According to Piaget (apud Goulart, 2009) thanks to intuitive reasoning, the child acquires a way of dealing with information from different sources and with many of the problems of integration from different points of view. Although he can often discover the path of his reasoning in a problem, he does not yet have a clear conceptual representation that allows him to arrive at the correct answer.

For Seirawan (2006), intuition in chess is the act of finding the right move or strategy by "feel" rather than by calculation, or for Blanco (2008), logical thinking and intuitive thinking can be cultivated through learning and chess training.

Intuitive thinking is present in all ages and sometimes it is based on it that we perform our daily actions, be it in a practiced game such as holding a card just for holding, and soon at the end of the round find out that it was the triumph of the opponent, or still, to divert a street just by deflecting and then to discover about a congestion caused by an accident in that street that was going to happen before.

### 3.4)Linguistic Intelligence

After starting a program of chess education the child will find in the phases of this learning a rich literary repertoire, which will be perfecting his game and stimulating the practice of reading.

For Klein (2003), chess is an important support in the literacy process, working in the area of reading and writing construction. The board offers grants to understand the set of letters in the formation of words and phrases.

The use of the Internet, also makes it possible to find materials that help in chess learning, online chess games is also a strong ally for the development of linguistic intelligence, as well as playing is allowed during the bids to communicate, comment on failure possibilities and correctness.

## 4.THE CHESS IN THE SOCIALAND EMOTIONAL QUESTION

The social and emotional question is present in chess from the first lessons to the high technical level, since from the beginning of learning the child is in complete relation with the people and the environment, in each step of his learning she is enthusiastic and seeks every more knowledge, seeks to know chess as a whole from its stories and legends to the fundamental

principle of the game.

Usually, the child invites his colleagues to take part in the chess classes, as he evolves he starts thinking about tournaments, trips, new friendships, with the evolution of the internet the little chess player has the possibility to talk with a distant friend that he has met in competitions.

In each tournament played, there is an increase in the role of people, acquiring knowledge, and encountering different emotions, whether of enthusiasm or sadness depending on their results, but all the emotions that can be constructive of knowing how to gain and recognize their own failures.

### 5. THE CHESS AND THE SOCIETY

Sport in general has a great influence on society, being able to change behaviors and break paradigms. According to Bueno (2006), the word social means "of society or relative to it, sociable that befits society". Chess is in complete relationship with the social, it allows integration, no matter the age, race, creed or economic level of the person, it is a sport which girls and boys play together, where the biological question does not enter as a primordial factor, because if it is an intellectual sport, it allows both sexes to play a fair match with the same intellectual capacities.

The social relationship with the family, teacher and players, is also constant, the family accompanies the child in their learning, encourages, supports, calms and vibrates. The teacher, always as intermediary for the knowledge and evolution of the game.

According to Goulart (2013), the term social has two meanings the first refers in the relationship between the child and the adult where it is the "source of educational and linguistic transmission of cultural contributions, from the cognitive point of view and source of specific feelings and particularly of moral feeling, from the point of view affective".

For Oliveira (2005), chess is a parallel universe or a mirror of life, allowing the player to experience, in the evolution of a match, general and specific situations very similar to those of real life, both psychological and sociological.

For Klein (2003) chess is inserted in the society, for being a sport and now in 2009 recognized by the International Olympic Committee as Olympic sport, for being present in theatrical presentations, in the manufacture of its pieces in the sculpture, in spectacles of dance, in art.

Chess in literature where the beauty and aesthetics of the game inspire more and more writers to develop works related to the game. For Blanco (2008) chess is the sport with the most publicized literature adopting its own language system (algebraic system), in the cinema some movies already produced reporting the history of some renowned masters, in computer chess has been gaining its space through online games, chess programs and books.

### 6. THE CHESS AND THE EMOTION

Feelings related to emotion are present in our lives, we are constantly changing moods, we feel joy, enthusiasm, we believe in something positive, we feel fear, guilt or sadness.

During the training the child, as long as he enjoys what he does, seeks to absorb more and more information, in order to overcome, his colleagues and himself, feels joy in what he is doing, transmits to the teacher satisfaction in the ideas employed.

For Lawther (2009), feelings occur at different intensities, which follow a continuum from the gentle level, awakened by regular motives and incentives of daily and customary needs, to the acceleration that occurs with ample stimulation and activation.

When the child plays a match she needs to be aware of what she can lose, she often feels afraid of being defeated by the opponent; but they are normal issues in our lives, obstacles to be overcome.

The student must know how to win, lose, recognize his faults, listen and respect, be sure of himself, be confident. These values will be used throughout life, so it is of great importance to work with students on their values and emotional states.

According to Blanco (2008), when students begin a systematic practice in chess, "children will be able to generate a series of emotional and social skills that allow them a greater relationship with their environment. The child who starts in chess and learns to control and manage this type of emotions gradually leads to control of other flaws in their personality."

Chess on the emotional issue can serve as an "escape valve" for stress, sadness and negative emotional issues.

### 7. FINAL CONSIDERATIONS

During the study we tried to show chess as a sport and facilitator in the development of the child in school, for this it was necessary a study directed to cognitive questions and their relations with the game of chess, prioritizing ramifications of the intellect: logical intelligence mathematical, decision making, intuitive thinking and linguistic intelligence, after studying and relating chess to cognitive issues, we seek to show chess on social and emotional issues in regard to people and feelings, provided during a chess teaching program.

More and more chess has been gaining ground in the sports world, with municipal, national and world championships and currently accepted as a sport by the International Olympic Committee (C.O.I.).

One relevant issue that helps to prevent this intellectual sport in the educational field is the lack of professionals suitable for its teaching, an unqualified professional in a certain activity can cause an injury to the athlete. In chess an unqualified teacher can also bring serious damages to the practitioner, in the emotional, character and cognitive issues regarding the child's disposition and their respective learning.

Therefore it is necessary the presence of a teacher who knows the appropriate methods to be used during a chess program, focusing on the child's cognitive level and following a logical sequence of teaching.

Finally, it is up to our educational authorities to develop public policies in favor of chess, given the great importance of this sport in school and, in parallel with this, to encourage its practice through the implementation of projects and festivals, to improve teacher training courses, which integration of chess in the school environment and consequently the interest in its practice.

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#### **SCHOOL CHESS - A SPORT WITH A FOCUS ON CHILD GLOBAL COGNITIVE DEVELOPMENT**

This study focuses on chess as a sport emphasizing cognitive development in branches: logical mathematical intelligence, decision making, intuitive thinking and linguistic intelligence and linking them with the game in the form and size of the pieces, geometric figures and game development in a technical character , tactical and strategic. Therefore, the need to show social and emotional issues that chess employs during school and competitions, its values and importance in the daily practitioner, and was used for both literature and literature reviews.

Key words: Chess, Child, Cognitive, School.

#### **ÉCHECS SCOLAIRES - UN SPORT FOCALISÉ SUR LE DÉVELOPPEMENT COGNITIF MONDIAL DES ENFANTS**

#### **SOMMAIRE**

Cette étude met l'accent sur le jeu d'échecs comme le sport mettant en évidence le développement cognitif dans les branches: l'intelligence logique mathématique, la prise de décision, la pensée intuitive et l'intelligence linguistique et concernant la même chose avec le jeu sous la forme et la taille des pièces, des figures géométriques et le développement du jeu dans un personnage technique, tactique et stratégique. Ainsi, la nécessité de montrer les problèmes sociaux et émotionnels que les échecs emploie pendant les cours et les compétitions, leurs valeurs et de l'importance dans la pratique quotidienne, pour laquelle il a été utilisé une littérature avec des critiques littéraires.

Mots clés: échecs, enfant, cognitif, école

#### **EL XADREZ EN LA ESCUELA - UN DEPORTE CON ENFOQUE EN EL DESARROLLO COGNITIVO GLOBAL DEL NIÑO**

#### **RESUMEN**

El presente estudio enfoca el ajedrez como deporte destacando el desarrollo cognitivo en ramificaciones: inteligencia lógica matemática, toma de decisión, pensamiento intuitivo e inteligencia lingüística y relacionando las mismas con el juego en las formas y tamaño de las piezas, figuras geométricas y desarrollo del juego en un carácter técnico, táctico y estratégico. Por lo tanto, la necesidad de mostrar las cuestiones sociales y emocionales que el ajedrez emplea durante las clases y competiciones, sus valores e importancia en el cotidiano del practicante, siendo que para ello se utilizó una investigación bibliográfica con revisiones literarias.

Palabras clave: Ajedrez, Niño, Cognitivo, Escuela.

#### **O XADREZ NA ESCOLA - UM ESPORTE COM ENFOQUE NO DESENVOLVIMENTO COGNITIVO GLOBAL DA CRIANÇA**

#### **RESUMO**

O presente estudo enfoca o xadrez como esporte destacando o desenvolvimento cognitivo em ramificações: inteligência lógico matemático, tomada de decisão, pensamento intuitivo e inteligência linguística e relacionando as mesmas com o jogo nas formas e tamanho das peças, figuras geométricas e desenvolvimento do jogo num caráter técnico, táctico e estratégico. Logo, a necessidade de mostrar as questões sociais e emocionais que o xadrez emprega durante as aulas e competições, seus valores e importância no cotidiano do praticante, sendo que para tanto foi utilizado uma pesquisa bibliográfica com revisões literárias.

Palavras chave: Xadrez, Criança, Cognitivo, Escola.

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