

GAME LEVELS AND DECLARATIVE KNOWLEDGE IN YOUNG BASKETBALL PLAYERS FROM CEARÁ STATE

Niveles de Juego y conocimiento declarativo en jóvenes jugadores de baloncesto del Estado de Ceará

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Abstract

Basketball is one of the most practiced sports in the state of Ceará, in the school environment. The traditional method is the most used among teachers and coaches. This approach does not allow the adherence of new practitioners to the regular practice of the sport. The central objective was to verify the level of understanding of play in basketball of young people from 12 to 16 years from an alternative approach to teaching-learning-sports training. This is a cross-sectional study. The sample consisted of 16 students between 12 and 16 years of age, with a minimum of 1 year of practice, of the extension project *Solidary Basketball*, of the Federal University of Ceará. The GPAI (*Game Performance Assessment Instrument*) was used. The instrument has the function of evaluating the behavior of the performance in the game. The first part of the assessment was made from a 2x2 basketball game, with only half court available. The second part of the evaluation was carried out from a formal basketball game (5x5). Students were assessed from their collective action, through a formal basketball game, without exclusion or adaptation of rules. The game was played between team A x team B, with both teams playing in the game system of 1.2.2. The tactical knowledge of basketball, according to the classification of the experts, five obtained weak results, six obtained moderate results and five obtained effective results, demonstrating that the sample is quite heterogeneous. It is possible to use GPAI to evaluate the game level of basketball players, as well other approaches to basketball education, leaving aside traditional methods and starting with alternative methods.

Keywords: basketball; alternative approach; school sports.

Resumen

El baloncesto es uno de los deportes con más practicantes en el estado de Ceará, en el ambiente escolar. El método tradicional es el más utilizado entre profesores y técnicos. Este enfoque no posibilita la adhesión de nuevos practicantes a la práctica regular de la modalidad. El objetivo central fue comprobar el nivel de entendimiento de juego en el baloncesto de jóvenes de 12 a 16 años a partir de un enfoque alternativo para la enseñanza-aprendizaje-entrenamiento de los deportes. Se trata de un estudio de corte transversal. La muestra fue compuesta por 16 alumnos entre 12 y 16 años de edad, con al menos 1 año de práctica, del proyecto de extensión Baloncesto Solidario, de la Universidad Federal de Ceará. Se utilizó el GPAI (*Game Performance Assessment Instrument*). El instrumento tiene como función evaluar los comportamientos de la performance en el juego. La primera parte de la evaluación se realizó a partir de un juego de baloncesto 2x2, sólo con media cuadra disponible. La segunda parte de la evaluación se realizó a partir de un juego formal de baloncesto (5x5). Los alumnos fueron evaluados a partir de su acción colectiva, a través de un juego de baloncesto formal, sin exclusión o adaptación de reglas. El juego fue realizado entre el equipo A x time B, con los dos equipos jugando en el sistema de juego de 1.2.2. El conocimiento táctico del baloncesto, según la clasificación de los expertos, cinco obtuvieron resultados débiles, seis obtuvieron resultados moderados y cinco obtuvieron resultados efectivos, demostrando que la muestra es bastante heterogénea. Es posible utilizar GPAI para analizar lo nivel de juego de basquetbolistas, así como otros enfoques para la enseñanza del baloncesto, dejando de lado los métodos tradicionales y partiendo hacia los métodos alternativos.

Palabras clave: baloncesto; métodos alternativos; deporte escolar.

Introduction

The difficulty that students find in learning the technical and sports fundamentals of basketball is something very worrying and negative, therefore a solution is very important so that this reality can be modified. The alternative approach comes with the purpose of innovation in the teaching-learning-training process, creating methods and strategies in which the student understands why he is taking action and when he should do that action. The present study aims to improve the teaching of school basketball for children and adolescents from 12 to 16 years old.

According to Krahenbühl, Leonardo, Souza & Rodrigues. (2018), "the students' passing through the stages of the teaching process of the modality follows a path from the simplest to the most complex, starting in a global way before reaching the specific". The alternative approaches are indicated because it's possible to start from the beginning, even if the player has some experience with sports. It is essential to reformulate the teaching methods of this sport, based on a current science, so that we can change the reality of the city, developing the potential of children and adolescents and disseminate basketball in all social strata present in the locality.

The Collective Sports Games (CSG) are present in the city of Fortaleza, in the state of Ceará, nationally as well as internationally. These sports have a fundamental role in the education of the human being, since they encompass many aspects and virtues such as mutual respect, cooperation, teamwork, respect for others, honesty, among others, such as physical, cognitive and social benefits. In particular all Collective Sports Games (CSGs) are unpredictable, systemic and ecological. They establish co-operation, require open-ended skills and a high capacity to adapt to new situations, through intentional actions, involvement and constant decision-making. Approaching the sport only with technical activities is a way that teaches only "how to do". The alternative approach also teaches "when to do" through reduced games. The technical training process cannot be restricted to the coordinating auxiliary training capacities of the specific fundamentals, but must be considered methods that allow the athlete to create new possibilities of movement or to select the most appropriate technique for the different situations of the game. That is, the good technical performance is linked to a good tactical understanding of the game. Galatti et al. (2017)

Some authors, as Garganta (1995), Greco & Souza (1997) for example, have written extensively about these methods, which are so essential to the development of the practitioner of sport, both in physical, mental and social matters. According to Garganta (1995), "CSGs have two fundamental traits, which are **cooperation** and **intelligence**". The cooperation requires a development in the communication system of the team, creating teamwork, exploring the individualities of each athlete so that they favor the team and allowing the collective team play to be improved. According to Garganta (1998), intelligence is: "understood as the ability to adapt to new situations, that is, as a capacity to elaborate and operate appropriate responses to the problems posed by the random and diversified situations that occur in the game (notion of adaptability)".

According to González, Ibáñez & Feu (2017), "sports, like other curricular contents, require prior planning and design to be developed in a didactic unit". The organization of the CSG is according to the phases of the game, which are 3: defense, transition and attack. The defense is characterized as the impediment of the offensive tasks of an opposing team, canceling their tactics, preventing the completion of the play in a satisfactory way, leading to the point or the goal. The game transition can be characterized as the end of the defensive action and the beginning of the offensive action, where the team, after the recovery of the possession of the ball, reorganizes in position of attack to finally leave to the game. The attack is characterized as the last phase of the game where the team will attempt to convert the point or goal, creating means to circumvent the defensive action of the other team and complete the play satisfactorily. Thus, the logic of CSGs is established in the dialectical relation defense / attack (cooperation / opposition), seeking to control the object of the game (implement) and conquer the opponent's target more often than it conquers the defensive target. (Galatti et al., 2017).

It is possible to identify basic principles of tactical action in basketball according to the phases of the game (attack / defense), such as: a) offensive principles: the creation of passing lines, situations of passing and unmarking, conservation of possession of the ball, progression towards the target adversary aiming at completion; b) defensive principles: defend between the attacker and the basket, make it difficult to exchange passes and pitches, strive to regain possession of the ball. (Rodrigues et al, 2013).

The CSG teaching methods were developed over the decades, due to the need to seek cognitive knowledge that was effective in the practice of modalities. According to Gréhaigne & Guillon (as cited in Garganta, 1998), say that "Since the 1960s, the didactics of the CSG rests on a formal and mechanistic analysis of pre-established solutions." The teaching methods of the CSG were basically the training of technique over tactics, focused on a large number of repetitions of mechanistic exercises, where the athlete would improve that motor gesture, but did not develop his tactical sense. According to Filin (1996), "the objective of the technique is to improve the result, allowing a more economic and effective action of the movements". The tactic received little or no attention in these trainings, as well as the game-based training itself, which had no time in this traditional approach, since the technique was focused in an exacerbated way, many times this type of training could not provide to the athlete situations similar to what he could find in a game itself. According to Garganta (2002), "in this method, in which the motor gesture is privileged, the approach of the game is delayed until the abilities reach the desired income". Other disadvantages, according to Gama Filho (2001) is that "the decision-making processes do not occur, since the student has anticipated knowledge of the movement to be performed". Cañadas & Ibáñez (2010) raise questions such as: "should the tactical aspects be prioritized over the technicians? Do the technicians over the tacticians or deserve an equal treatment? Does the selection of the contents depend on the formative stage in which the players find themselves? In what way? how should the teaching of collective sports in general and basketball be started? starting with tactics or technique"?

According to Gréhaigne & Guillon (as cited in Garganta, 1998), "In the 90s, a CSG approach class appears in almost the same way: 1st part-warming with or without ball (usually without a ball); 2nd part-main body of the lesson, where the specific gestures of the activity considered are approached through simplified situations, with or without opposition; 3rd part according to the available time, played forms are used (reduced games or formal game)". This new approach of the 1990s was an evolution from the traditionalist approach. The class was well structured and divided, focusing still the teaching of the technique, but with a differential: This time the tactic would also be addressed in training. Greco (2006) says that "the tactical behavior is visualized externally from the technical execution, that is, procedural knowledge, automated, internalized in memory. Was an intelligent tactical action accomplished? Intelligence is a concept with several definitions. It is characterized by offering the orientation of the subject in new situations, supported by his knowledge and understanding". Reduced games were used, creating situations-problems that would be found in the game itself. Training was performed progressively, emphasizing, firstly, activities with less difficulty for the athlete to assimilate what was being used, and then, gradually, the difficulties became more accentuated as the athlete developed. After this part of the training, there would be the formal game where the practitioner could apply the knowledge obtained in the activities with reduced games in the game itself, creating a more comprehensive tactical notion. Corroborating this view, Greco & Souza (1997) say that "the presentation of functional structures to students should consider the level of difficulty and complexity of the game situation. In a simplified way, this approach was taught **how to do** (technique) separate from **when to do** (tactical). Several authors contributed to the development of this type of alternative approach, making the team the center of the CSG teaching / learning process". Contributing to this thinking, Teodorescu (1984) says that the **team** then becomes understood as a complex and dynamic social microsystem. In order to understand the difficulty of learning basketball, the level of the players must be found. Therefore, the objective of this study was to verify the level of game understanding in basketball of youngsters from 12 to 16 years old.

Methods

Type of research

The research model is characterized as a cross-sectional study. According to Rouquayrol & Almeida (2011), “cross-sectional or cross-sectional studies are studies that visualize the situation of a population at a given moment, as snapshots of reality”.

The cross-sectional research was also used as a descriptive study, in order to verify the level of game understanding of the sample, at the time the tests were applied, based on the training provided in the *Solidary Basketball* extension project. According to Aragão (2011), “in fact, these studies make possible the first moment of analysis of an association. Identified within a population the existing outcomes, we can list factors that may or may not be associated with these outcomes in different degrees of association”.

Participants of research

The investigated subjects were composed by adolescents between 12 and 16 years old who practice basketball in the Solidarity Basketball extension project, with time of practice of one (1) year, held in the Institute of Physical Education and Sports (IEFES-UFC) gymnasium.

Instrument

Through an integrative review of literature on national and international databases and articles on the subject, it was verified that, in order to achieve the objectives proposed in this work, it would be necessary to apply the Game Performance Assessment Instrument (GPAI) method, which was the instrument used on this study. This method has the function of evaluating the behavior of the performance in the game. GPAI provides students and researchers with an intention to observe and codify performance behaviors (eg, decision-making, achievement of appropriate moves and skills performed) that are linked to the tactical problems. (Oslin, Mitchell and Griffin ,1998)

This instrument is important for researchers because it is capable of providing an analysis of individual components of the performance in the game, both with the ball (skill execution and decision making) and without ball (positioning, offensive and defensive transition), which allows the creation of own evaluation and analysis criteria, according to the objectives proposed by the respondents. Santos (2016) says that “it is effectively a flexible observation tool that can be used to assess the players' actual performance through direct observation or using video (indirect observation)”. (Santos, 2016) The GPAI is an instrument that provides a more comprehensive assessment of the aspects of the game, since this instrument allows a quantitative analysis of the performance within game situations, being able to evaluate both technical execution (shooting, passing, dribbling) and tactical execution (offensive/defensive transition, positioning, decision making). However, GPAI has some boundaries in its application. This instrument does not indicate the level of performance of athletes, since performance indices only allow comparisons between athletes, so there is no criterion that, in the observed game, allows the player to place a certain level of performance. (Santos, 2016).

Data analysis

The components of the GPAI for basketball include decisions made, skill execution and support. The information was collected through the assessment points proposed by the GPAI method, which are:

1. Base: Appropriate return of the performer to the starting position or recovery position between skill attempts.
2. Adjustment: Moves of the performer, either offensively or defensively, when requested by the progress of the game.
3. Decision-making: Make appropriate choices about what to do with the ball during play.

4. Skill Execution: Efficient performance of selected skills. Whether it's a dribble, or a tray, efficient execution of skills is critical if you are to keep up with moves in pursuit of punctuation. A small error in this ability can result in a quick counterattack and eventually an opponent's score.
5. Support: Move without the ball to a position to receive a pass.
6. Coverage: Defensive support for the player to make a play with a ball, or move toward the ball.
7. Guard Marking: Defend an opponent who may or may not be with the ball.

The first part of the assessment was done from a 2x2 basketball game, with only half court available. The second part of the evaluation was carried out from a formal basketball game (5x5).

Statistical analysis was performed by observing the videos recorded by the scholarship holders of the *Solidary Basketball* project, and then observed by the researcher so that an analysis of the evaluative aspects previously mentioned could be performed.

Data analysis was made from the specific aspects of the basketball, where 4 points were evaluated, which are: Defensive sliding: Execution speed and displacement quality; Dribbling: Execution speed and dribbling control with direction changes; Shooting: Accuracy and speed of execution of the throw to the basket; Passing: Accuracy and speed of execution of the pass.

In the second moment, the analysis of the data was made from the basic aspects of the performance, also having 4 evaluative points, which are: Choose about what to do with the ball; Effectiveness of selected skill; Movement without ball in attack; Defensive actions.

In the third moment, the declarative knowledge was analyzed through the technical and tactical results of each participant of the research.

Performance levels were evaluated from the study by Memmert & Harvey (2008) on the GPAI, being configured as:

- 5- Very effective: Always moving and trying to receive passes, communicating with the companions. Often opens spaces in the opponent's defense and participates a lot with passes, kicks, dribbles and ball recovery.
- 4- Effective: Most of the time moves to receive passes, communicating and asking the ball to the companions. It opens spaces in the defense field and sometimes participates in the game through passes, kicks, dribbles and ball recovery.
- 3- Moderate: The player starts communicating and asks the teammate for the ball. It starts to open spaces in the defense, although this movement is slower and the player is involved sporadically with actions of the game as passes, kicks dribbles and recovery of ball.
- 2- Weak: The player rarely communicates and asks the ball to his teammates. He tries to find spaces in the defense to receive a pass despite being a slow move and if he does not receive the ball, he gives up the play. The player is rarely involved with the game actions like passes, dribbles, kicks and ball recovery.
- 1- Very weak: The player never communicates and does not ask the ball to his teammates. He never tries to open spaces to receive passes and is not aware of moves like offensive and defensive slip, does not try to kick, dribble, pass the ball and never tries to recover the ball when it is lost.

Results

Results of basketball 2x2

In basketball 2x2, the evaluation counted on a sample of 16 students of the project of extension *Solidary Basketball*. To be more specific, the games were divided into cardinal numbers and players in alphabetical letters. The data obtained through the analysis are arranged as follows: (hits / misses) for each aspect analyzed (defensive sliding, dribbling, shooting, passing). Regarding the analysis of the specific aspects and performance of the modality, the teams were divided into students A and B x students C and D. The data division was performed as hits / misses.

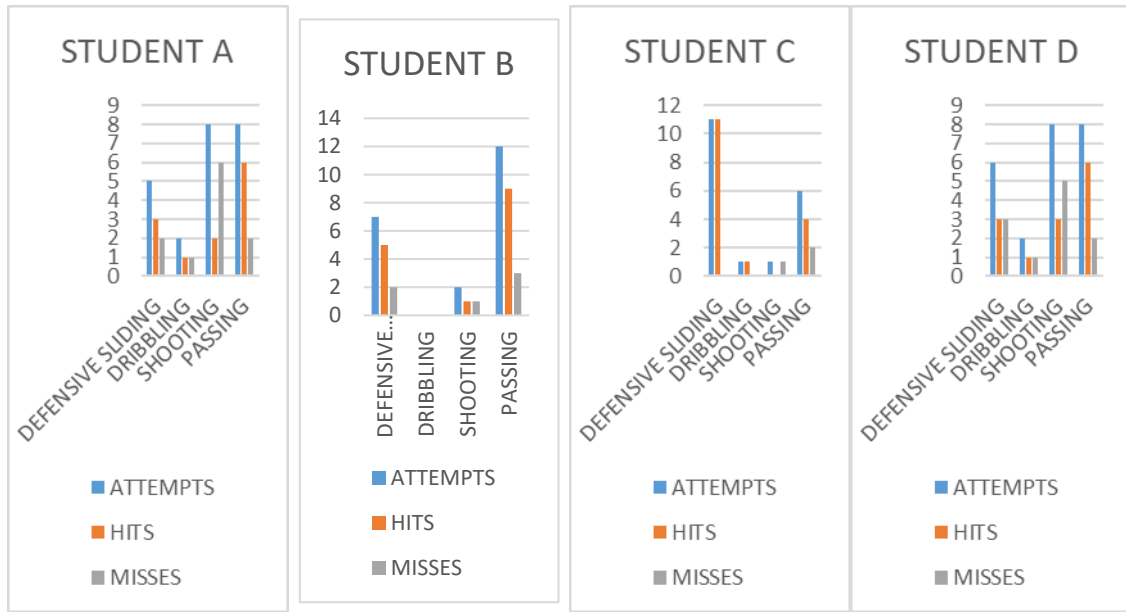


Figure 1. Game #1, with data from 1-4 players.

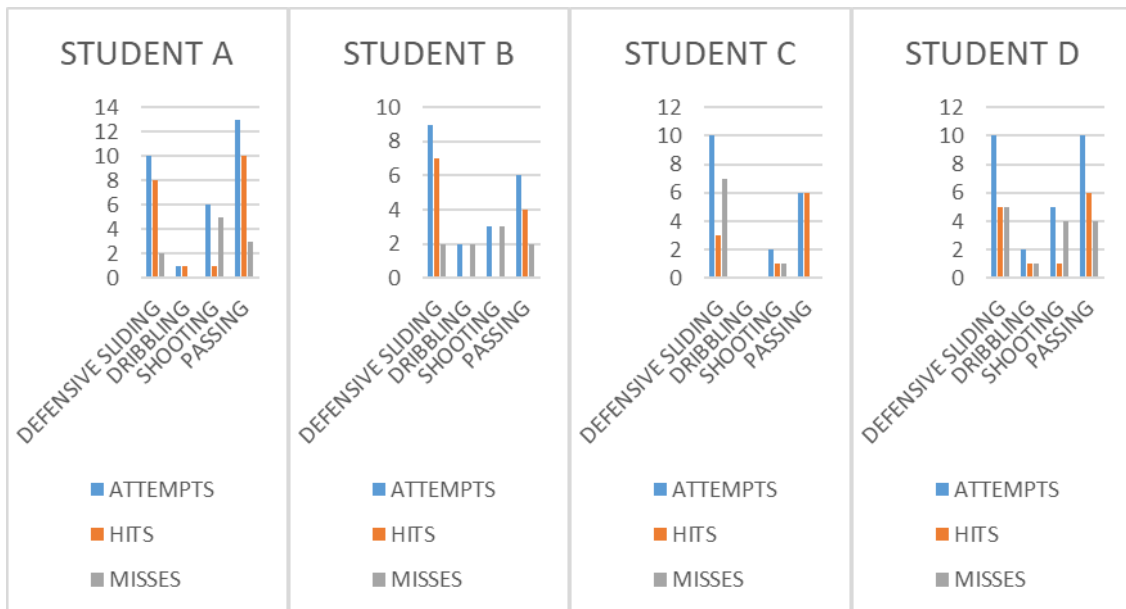


Figure 2. Game #2, with data from 5-8 players.

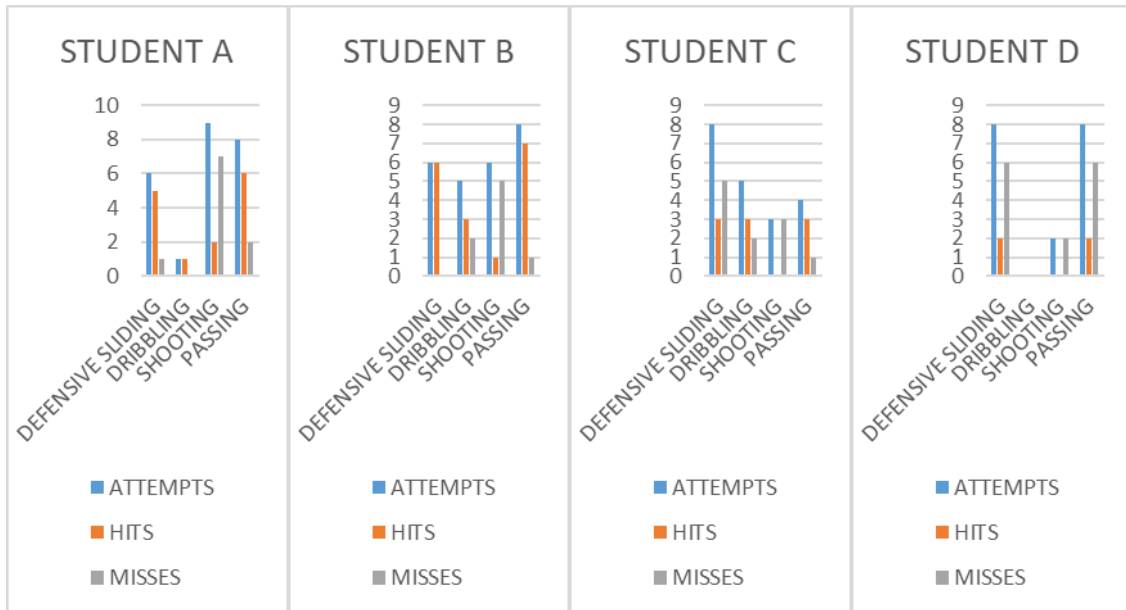


Figure 3. Game #3, with data from 9-12 players

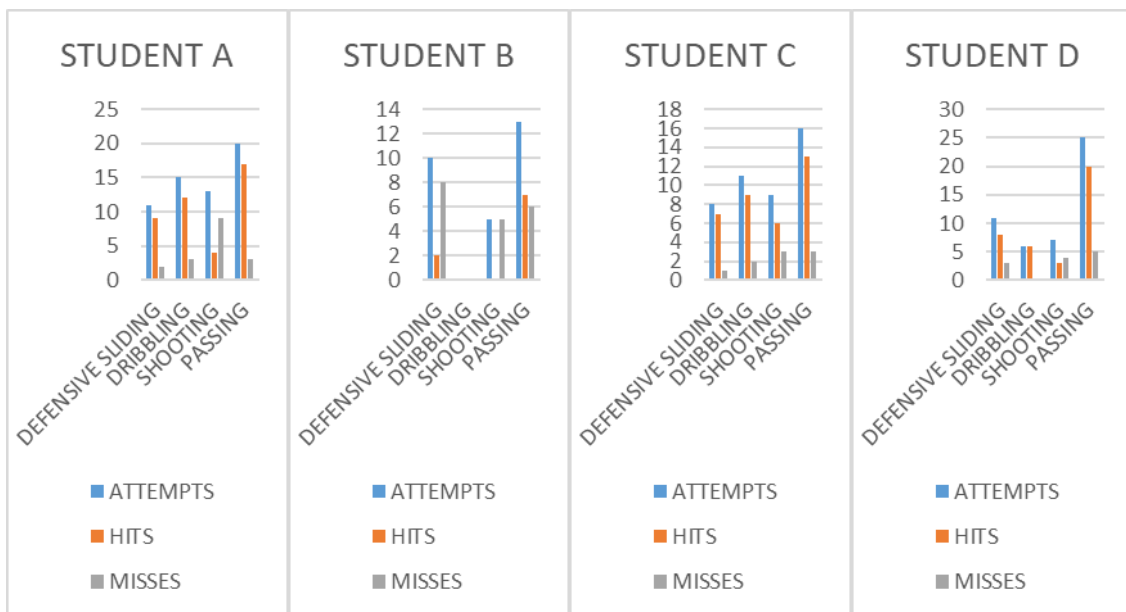


Figure 4. Game #4, with data from 13-16 players.

Formal Game Results (5x5)

In this game team A possessed a greater possession of ball, having effective collective actions. The team always made the offensive transition by exchanging several passing, always respecting the time limit in the attack and at no time concentrated their moves on a single player, showing that collectively they were very effective. Both defensive and offensive **supports** were offered at all times of the game, mainly by the pivots. At the time of the ball loss, team A immediately rushed to the defensive field and was organized tactically so that ball recovery could be performed quickly and effectively, when they could not make the **adjustment** (movements that require adaptation according to the situation of the game, for example, a shoot that does not fall, requiring an adjustment to perform the rebound), but effectively executed the **coverage** and **guard marking**. When the ball was recovered, the pivots immediately ran to the three-point-line, making a kind of wall in the opponent's defense, the small forwards were constantly moving and the point-guard was

responsible for pacing the rhythm of his team's game, as well as commanding the attack, being required in the **decision-making** aspect. The **skill executions** of team A can be considered effective, since the passing, dribbling and shooting were mostly correct. Small forwards and pivots were also effective in their decisions, they thought quickly when they received the ball, especially in the attack, being creative to perform several moves.

The B team had a smaller possession of the ball, having collective actions smaller than those of team A, for the style of game that they set out to play, which was the counterattack, thanks to the characteristics of team A and mainly the characteristics of their own players, who possessed enough skill and often appropriated dribbling. The team made the offensive transition by switching between passing and individual moves, it was clear they did not care about the time limit of possession of the ball in the attack, as they tried to make points as fast as possible. The plays were mostly concentrated on the small forwards and especially on the point guard, the pivots basically had a more defensive role. Both defensive and offensive **supports** were offered at all times of the game, defensively by the pivots and small forwards and offensively starting by the point-guard and constantly passing by the small forwards, few times the pivots were required offensively. At the time of the ball loss, the pivots of team B ran to the defensive field because they were closer to it, the small forwards moved to the defensive field soon after and the owner tried to recover the ball at the beginning of the offensive transition of the time A. The execution of the **adjustment** was considered effective, thanks to the offensive action of the small forwards, that were always attentive to any change of the trajectory of the ball, generally thrown by the point guard. The **coverage** was considered moderate, due to the positioning of the small forwards at the moment of the defensive actions, since the pivots were initially isolated in the defense, being practically responsible for the **guard marking**. The **skill execution** was considered effective, due to the high rate of accuracy in dribbling and passing. The shooting was also effective, but contained some mistakes. The principle of the **base** was also considered moderated by the same reason previously reported, with the pivots initially responsible for the defensive actions, and soon after the recompositing was accomplished by the small forwards and point guard. When the ball was recovered, the pivots remained in the half court, the small forwards constantly moved, taking turns between them even the sides of the court to confuse the marking and the point-guard was responsible for the creation of plays and 3-point shooting, as well as passes for the small forwards that infiltrated the three-point-line, still corroborating with the thinking of the authors mentioned above. In the **decision-making**, team B had a moderate performance, due to the individuality of its players. Sometimes a pass would become the best option to complete plays, but the players of team B always wanted to decide the game, slightly harming the final performance.

Discussion

2x2 games

Game #1:

Starting with the tactical evaluation, with the choice of what to do with the ball, student A (figure 1) obtained a moderate advantage because, despite having achieved a good rate of accuracy in the pass, it was not well in the shoot. The effectiveness of selected skill was also not as profitable, it was observed that student A had a bit of fear when the ball came into his possession, trying to get rid of it as quickly as possible. This fact might have been caused by the lack of previous knowledge of roles and motor skills. These concepts will allow to organize the child the contents that he must learn in the initiation stages, so that when he has to select a motor action, between his baggage of learning and experiences, keep in mind his role and that of his team-mates and the principles that he can achieve. (Molina, 2006). With this behavior, the level of effective skill execution fell a lot by having little time to think about what to do. In relation to the movement without ball in the attack, it was observed that this student stopped at some moments of the game, damaging the action of his teammate for lack of creation of line of pass, soon the actions of support taken were for the most part inappropriate. The actions of defense also had a low use, being considered inappropriate.

Student B (figure 1) had a good performance, being classified as effective according to the experts. Cañadas & Ibáñez (2010) point out that “its action is contingent on knowing what to do and when to do it”. The passes and shoots were mostly successful. The execution of abilities can be considered effective, since the one had a good use in the technical aspects and did not have complications in its decisions at the time of the game. The supporting actions were appropriate, since student B had a good idea of creating a pass line, as well as positioning near the table for completion, even if the ball did not always arrive. Costa & Nascimento (2004) state that there are several variations in the technical abilities of each attack. This statement is in line with what the student B presented in these results. The defensive actions were also considered appropriate, since he had a good advantage in the matter of the defensive slip, knew how to approach well and in a non-foul, and he failed very seldom defensively.

Student C (figure 1) had a moderate advantage, according to the experts, since he tried few passes and got only a 50% use and shoots, he did not hit in his only try. Ferreira, Galatti & Paes (2005) say that “the games make the tactical and technical aspects of the game are learned by the practitioners in a more pleasurable way”. The student C did not have so much time of practice of basketball, therefore the presented result is understandable because of the little time of practice. These data show that the decisions taken were not considered ideal, since there was little production of plays. According to Aguilar, Chiroso, Martín & Chiroso (2012), “players can make different decisions depending on the type or level of the opponent they face, the moment of the game, the result, the evolution of the score, etc.”. The execution of abilities can be considered moderate, since the student C did not look for the offensiveness and the leadership in the game, simply passing this function to his companion, going against the thought of Graça & Oliveira (2005), that the random passes, few situations of launches and with little success is due to the level of anarchic game in which the student is. Supporting actions were also moderate, for the same reason stated earlier in the execution of skills. In the actions of defense, the student C had a good use, thanks to its effectiveness in the defensive slips.

Student D (figure 1) had a moderate use in the decisions made. The passes were settled mostly, but the kicks left unsatisfying, showing that their decision-making still needs to be further improved, as well as this technique. Cañadas & Ibáñez (2010) say that “exercises are used to develop the technique and games for tactics”. Student D needs a little more training in this aspect so that he can have a better result. The execution of skills can be considered moderate, since it had some errors in the execution of the technical aspects, compromising their decisions at play time, a fact already mentioned by Graça (1998), telling us that the external factors of the game have a role performance. The support actions were appropriate, since student B had a good idea of creating a pass line, always able to finish the plays. The defensive actions were also considered moderate, as he had little more than 50% of advantage in the matter of the defensive slip, sometimes committing some infractions.

Game #2:

Student A (figure 2) had an effective use in the decisions made, being mostly appropriate, but other aspects were left to be desired. The passes were mostly successful, but the shoots had a poor performance. This shows that while being active offensively, your game vision can be improved, since a pass could be the best choice rather than a shoot that was not successful. Afterwards, the apprentice will have to select a motor behavior that he must execute individually or in collaboration with his teammates, giving rise to tactical and incardinated actions in a game system that will be organized in each of the phases of the game. (Molina, 2006). The execution of abilities can be considered effective, since it has a good use in the technical aspects, with the exception of the shoots, that must be improved. The support actions were also effective, since student A had a good idea of creating a pass line, and moved around the table so that he could receive a pass, or even move the marker so that the teammate could carry out a dribble and come out of the face with the basket. The defense actions were also considered effective.

Starting from the tactical evaluation, with regard to the choice about what to do with the ball, the student B (figure 2) had a very weak use in the decisions made, being mostly inappropriate. The passes and shoots were mostly ineffective, showing that he was not very active offensively, and tried to get rid of the ball rather than keep possession to create a

play. The execution of abilities can be considered weak. The support actions were very weak, because student B did not create a pass line and was oblivious to what was happening on the court at the time of attack. We can understand these results by the classification of the game's comprehension levels. Krahenbühl et al. (2018) say that "the students' passing through the stages of the teaching process of the modality follows a path from the simplest to the most complex, starting in a global way before reaching the specific". The defense actions, in turn, were considered effective according to the experts, because he had a good advantage in the matter of the defensive sliding, behaving actively when he needed to recover the ball.

Student C (figure 2) had an effective use in the decisions made, being mostly appropriate. The passes were all agreed, the shoots were few, only two attempts of shoots, with one hit. Skill execution can be considered in average. This player had a good advantage in the technical aspects and had no complications in their decisions at the time of the game. The support actions were moderate, mainly due to the lack of aggressiveness at the time of the offensive actions, since student C preferred to pass the ball than to complete the play. The defense actions were considered very weak, because he was stopped several times, waiting for the teammate to recover the ball, and did not know how to approach well when he tried to take the ball, often in a foul manner. Galatti et al. (2017) says that "the logic of CSGs are established in the dialectical relation defense/attack (cooperation/opposition), seeking to control the object of the game (implement) and conquer the opponent's target more often than it conquers the defensive target". We can say, by this statement, that student C needs to balance his offensive and defensive actions in order to reach better results.

Student D (figure 2) had, according to the experts, a poor use of the decisions made, being mostly ineffective and disinterested. The passes were very poorly used, being generally passes to the side and without objectivity, as well as the shoots, with only one hit. The execution of abilities can be considered weak, due to the lack of objectivity, with many errors. The support actions were good if we take into account the movement and creation of the pass line. Matias & Greco (2010) say that "the sporting gesture (cut in volleyball, handball pitch, soccer kick, ...), determined by decision making, implies a function of the intellect, a cognitive activity, in other words, a tactical action". So, the decision making of student D should be improved in order to reach better results. The defensive actions were also considered inappropriate. Student D often stood still, allowing his opponent to move freely, and his approaches were mostly foul.

Game #3:

Student A (figure 3) had a moderate use in the decisions made, being mostly heterogeneous. González et al (2017) say that "the variables game situation, level of opposition and degree of opposition influence the decision making of students". The passes were good, but the shoots had a low hit rate. The performance of skills can be considered moderate. The support actions were considered effective thanks to the great movement in search of the ball. The defense actions were also considered effective by the experts, thanks to the attention to the movement of the opponent, having a good performance in its defensive sliding. The defensive approaches were very useful and without fouls in the game. With this performance, we can classify student A, according to Garganta (1998), in the decentration phase of the game.

Student B (figure 3) had a moderate advantage in the decisions made, because in the defensive aspects he did well, but in the offensive aspects he did not go well. The passes were very well used, with a clear intention to reach the goal of the game. However, the shoots were not very good, having computed only one hit. The execution of skills can be considered moderate because, although student B always has the objectivity in his game, risking dribbles, passes and shoots in search of the basket, some mistakes have been made, impairing his final performance a little. Various contextual factors can affect or modulate decision making in the course of a meeting. Aguilar et al. (2012) say that "Thus, players can make different decisions depending on the type or level of the opponent they face, the moment of the match, the result, the evolution of the marker, etc". The support actions were effective according to the experts, thanks to the movement, both to create pass line, when to move the defender and leave his teammate in a man-to-man situation. The actions of

defense were considered very effective, he always moved in a precise and punctual way, and he did not make a simple mistake of defensive sliding.

Student C (figure 3) had a weak use in the decisions taken, because he acted in an ineffective way. The passes were not good, as he always tried to get rid of the ball with the side and without objectivity, as well as the shoots, containing just one hit. The execution of skills can be considered very weak, always wanted to decide the game alone, as if there was no teammate, and thanks to this made several mistakes. The support actions were moderated due to the movement and creation of the pass line, only to obtain possession of the ball and try to complete the move without much objectivity. Menezes (2016) says that "the variety of information contained in the game may be disadvantageous to beginners because of the complexity of the relationships between players, and it requires planning, chaining, and decision making in an unpredictable context". The defensive actions had a poor performance, thanks to the inaccuracy in the defensive sliding.

Student D (figure 3) had a very weak use in the decisions taken according to the experts. The passes were not good. Leal & Sillero (2010) say that "the development of expertise in some sports includes the capacity for continuous appropriate decision making that the player faces and the mastery of technical skills, specific to each sport". The shoots obtained only two attempts, all being wrong, entering the classification of Garganta (1998) as an anarchic game. The execution of skills may be considered weak due to the lack of willingness to play collectively. The support actions were moderate because of the movement so that he could receive the ball. The defensive actions were also considered weak, since it was stopped when the defensive sliding was required. It was also observed that student D stood in moments of defense while the opponent moved. According to Ferreira et al., (2005), it is from the games that the technical and tactical questions are learned, then a new intervention is necessary so that student D improves these aspects in his game.

Game #4:

Starting from the tactical evaluation, with regard to the choice of what to do with the ball, student A (figure 4) had a moderate use in the decisions taken, according to the experts. This result was only due to the errors in the shoots. Leal & Sillero (2010) say that "a tactical and decisive behavior is based on the athlete's anticipatory ability, the forecast that certain events can happen is a variable that facilitates the correct decision making". This student did very well in both defensive and offensive aspects, participating in the game. Passes have a high hit rate, always done objectively. However, the shoots were not very good, considering the number of attempts and hits, even so the student A was able to add 12 points. The execution of skills can be considered effective. Student A was very objective in his game, risking dribbles, performing accurate passes and kicks at the appropriate times, although not all were successful, showing having, according to the definition of Garganta (1998) a great notion of adaptability. The support actions have been performed correctly, thanks to moving in search of space, always creating pass line as well as spaces for your teammate play. The defensive actions were very effective, making very few mistakes in the defensive sliding.

Student B (figure 4) had a weak advantage in the decisions taken, both in defensive and offensive aspects of the game. The passes were poorly used, usually with the intention of getting rid of the ball. Regarding to the shoots, there was a simple hit. Skills execution may be considered weak, experts say. According to Ferreira, Graça, Estriga & Cruz (2018), skills seek to be developed in the light of emerging problems in the game and in the tactical understanding of the situation. Student B seemed to be oblivious to the game, his teammate practically did all the moves alone. When student B had the ball, he always tried to get rid of it. If his teammate was around, he passed the ball. If his teammate was far away, he risked the shoot. It was verified that student B needs an improvement in the basic principles of tactical basketball practice, elaborated by Rodrigues et al (2013), both on offensive and defensive principles. Supporting actions were characterized as weak, since student B was usually standing on the field while his partner tried to move toward the basket. The defensive actions were weak as well because student B stood still while his opponents moved a lot, making several defensive sliding misses.

Student C (figure 4) had an effective use in the decisions taken, both in the defensive aspects and in the offensive aspects. The passes were very well used, quite objective, always seeking the score. The shoots obtained a 50% use. The execution of skills was also considered effective according to the experts. The student C risked dribbles, passes and shoots in a bold and safe way. Leal & Sillero (2010) say that "sports where the environmental conditions are changing and there is a direct opposition with rivals, the decision making is of vital importance". A few small mistakes were made, but nothing that would hinder his great performance in the game. The support actions were effective, combining intelligence with the movement, both to create a pass line and to take the defender away from the basket. The defensive actions had an effective performance, always moving in a punctual way to regain possession of the ball and effectively carry out the defensive sliding.

Student D (figure 4) had an effective use of the decisions made, going very well defensively, but offensively was not so good because of the shoots. The passes were very well used, always objective, carried out in a simple and incisive way. The shoots obtained more mistakes than correct, but this is due to the offensive aggressiveness of this student, because whenever he saw the opportunity to score, he risked the shoot, having scored 6 points. The main change of inequality with respect to equality is the momentary modification of the spaces, which under a certain pressure of time (the exclusion time is limited) and a certain variation in the arbitration appreciation, produces a very different decisional space, forcing the players of the game to change their decisional behavior. (Aguilar et al., 2012) The execution of skills can be considered effective according to the technicians with experience in the area, since it has a high advantage both in the technical aspects and in the tactical aspects. The support actions were also considered effective, with intense movements, several dribbles and passes realized in a very conscious way and with a good technical calculation. The defensive actions were effective, always attentive to the movement of the opponent, but in some moments, student D paid close attention in the ball, allowing his opponent to escape the marking in some moments, but nothing that could compromise the game.

Basketball 5x5:

Team A made several passing among each other, with great time of ball possession, good offensive and defensive transitions and playing by the rules. These transitions were responsible for the maintenance of the coverage and guard marking. These actions showed that actions without the ball in their **defensive actions** were performed efficiently, respecting the principle of the base, punctuated by Oslin, Mitchell & Griffin (1998). In the moment of attacking, the movements of pivots (doing the "wall" in the opponent's defense) and the small forwards were made to distract the marking and to let the man who possessed the ball runs free, also characterized as an effective result in the **movement without the ball in attack**. When occurs a loss of ball possession, all the team ran into the defensive field in order to get the ball again. The passing, dribbling and shooting were good, showing that the **choose about what to do with the ball** and **effectiveness of selected skill** were effective. This fact can be understood by the thinking of Aguilar et al., (2012) which say that "the lower space pressure, in situations of superiority, favors making more correct decisions by the players".

Team B were a less collective team. Because of this characteristic, they had less possession of the ball, and their **defensive actions** were made by pivots, since they were only responsible for that. The **effectiveness of selected skill** was classified as effective due to the high rate accuracy in dribbling, passing and shooting. The **movements without ball in attack** were considered moderate, since team B used much individual moves due to the lack of collective game. This fact occurred because the pivots didn't run into the attacking area and the small forwards were "alone", so they tried to make points as fast as they could. The **defensive actions** were considered moderate because initially only the pivots were responsible for that. They stuck in the defensive field while the others stopped at the attacking area, and team A, many times, had the numerical advantage.

Conclusions

Knowing the importance of the use of new methods and strategies for the teaching of this sport in the state of Ceará, the main objective of the study was to verify the level of understanding of game in the basketball of young people from 12 to 16 years old. The students of the *Solidary Basketball* extension project showed, for the most part, a good tactical knowledge of basketball, considering the applied tests developed by experts of the area. This result was surprising, but positive. The sample was quite heterogeneous, tests showed that some are still in the anarchic phase of the game, but a good part of the sample was in the elaboration phase of the game. It was expected that these students obtained results below that presented, because the sample had contact with the basketball or the school environment, or the street basketball, and never trained in the competitive environment of the sport.

These results answered the objectives of the study, especially when it comes to the application of teaching strategies, which were important when we talk about the search for knowledge of the students' game understanding, so that it may favor the search for new forms of basketball teaching, avoiding the traditionalist method. In addition to improving the tactical and technical aspects of the game by the students, making them understand why to do such a motor action, the alternative approach is to measure their level of performance through tools such as the GPAI method. We could have had a larger number of students so that the sample could be larger and consequently we would have obtained a more expressive result, but it is important to emphasize the difficulty of displacement that these adolescents have to reach the Federal University of Ceará, since some have to take care of the family while parents work, others also work, and sometimes they needed to study in the morning when they had exams in the afternoon.

Finally, it is important to emphasize that this study can be used as a reference not only for coaches / teachers but also for other jobs that may arise in this area of teaching, helping basketball to develop even more in the state of Ceará. The GPAI instrument can be used as a complementary tool for new teaching approaches, as it allows the characterization of the students' level, making the teacher / coach create ideal teaching strategies for the group / team whose work. This study comes to add knowledge and be of great value to other scholars, an incentive for more people to research on alternative approaches, making this knowledge greater in this particular area of study.

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