

Possibilities for teaching the technical conceptual knowledge of handball in a didactic unit based on Sport Education

Posibilidades para la enseñanza de los conocimientos técnicos conceptuales del balonmano en una unidad didáctica basada en la Educación Deportiva

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Abstract. This paper aims to implement a Didactic Unit (DU) based on Sport Education for the teaching of technical conceptual knowledge of handball, in order to know the possibilities and difficulties of this process. There were 22 classes structured based on the main characteristics of the model, with the participation of 40 students from a high school second year class. For data collection, Field Diary and focus group were used, which were subsequently submitted to thematic analysis for discussions. The DU based on Sport Education was shown as a possibility to raise awareness of the teaching and learning process of the conceptual knowledge of handball, adapting the model's characteristics to the Brazilian school reality. It is concluded that through adaptations, the model allows transformation in pedagogical practice, therefore, it is suggested to use it to innovate the teaching of sports in school, breaking with the traditional model.

Keywords: sport, school, physical education, high school, learning.

Resumen. Este trabajo tiene como objetivo implementar una Unidad Didáctica (UD) basada en la Educación Deportiva para la enseñanza del conocimiento técnico conceptual del balonmano, con el fin de conocer las posibilidades y dificultades de este proceso. Fueron 22 clases estructuradas en base a las principales características del modelo, con la participación de 40 alumnos de una promoción de segundo año de secundaria. Para la recolección de datos se utilizó el Diario de Campo y el grupo focal, los cuales fueron posteriormente sometidos a análisis temático para su discusión. La UD basada en la Educación Deportiva se mostró como una posibilidad de sensibilizar sobre el proceso de enseñanza y aprendizaje del conocimiento conceptual del balonmano, adaptando las características del modelo a la realidad escolar brasileña. Se concluye que, a través de adaptaciones, el modelo permite la transformación en la práctica pedagógica, por lo que se sugiere utilizarlo para innovar la enseñanza del deporte en la escuela, rompiendo con el modelo tradicional.

Palabras clave: deporte, escuela, educación física, bachillerato, aprendizaje.

Introduction

The presence of sport in Brazilian schools can happen basically in two ways. One is on Physical Education (PE) classes, as part of the school curriculum. The other is as a complementary and optional activity, in the opposite period of the classes and that happens in only some schools with structural and financial conditions. This study focuses on the first option, the sport taught in the PE classes.

Brazilian PE is guided by national documents, which understand sport as part of the body culture of the movement and socio-cultural phenomenon. So, PE in school is a space and time for children study about sport, play and games, dance, fight, gymnastic and other body culture practices (Brasil, 2019).

Over the years, it has been noticed that little has changed in the treatment of sports in Brazilian school

physical education. It seems that the large number of criticisms directed at the subject were not enough to encourage the emergence of pedagogical practices that go beyond traditional technical teaching. It is fundamental, therefore, that the teaching of sports at school seeks to overcome this model, which in turn focuses on the execution of technical gestures isolated from the context of the game and is restricted only to the procedural dimension (González & Bracht, 2012).

For this, it is necessary to think of alternatives that mitigate the difficulties of the teaching and learning process of sport within the school environment, and more than that, collaborate to raise awareness in relation to the methodologies used. It is believed that the use of strategies with the ability to awaken in the student an understanding of the sport that demonstrates the plurality of meanings and manifestations of the phenomenon, so that he can enjoy and reframe in the way he wishes in the future (Scaglia, et al., 2021).

In this perspective of change, Sport Education model can be an alternative to overcome the reductionist vision

of the sports phenomenon within Physical Education and provide an opportunity for a meaningful understanding, not just an exclusive experience of movements related to the practice of sport (Siedentop, 1998).

Against the traditional perspective Sport Education proposes, through its characteristics, to teach and develop various opportunities for learning the sport, through pedagogical experiences that are significant in school PE classes, including Brazilian context (Siedentop, Hastie & Van Der Mars, 2011).

With the development of the model, students are expected to have the potential to participate and behave in a way that preserves, protects and develops the sports culture in school PE classes, transcending the values for life in society (Siedentop, 1998).

In order to pedagogically treat the sport at school, the exposure of the sport phenomenon is given by three main knowledge's, which in turn, should be considered in the teachers' practice. They are: (a) bodily knowledge (knowing how to do); (b) conceptual knowledge (knowledge about) and (c) attitudinal knowledge (values and attitudes)(González, Darido & Oliveira, 2017).

Based on the above, the objective of this research was to implement a didactic unit (DU), based on the characteristics of Sport Education, for the teaching of technical conceptual knowledge of handball, in order to know the possibilities and difficulties of the teaching and learning process.

Method

Nature of research and data production

This qualitative study focused on the implementation of a DU based on Sport Education to teach the technical conceptual knowledge of handball. Thus, a participant research was carried out, in order to verify the particularities of the teaching and learning process.

Two techniques were used for data production: a) participant observation and b) focus group. All data from the observation were recorded in a field diary. The focus group session, held at the end of the intervention, was used as a way to evaluate the process through the questions asked and provided dialogue on the possibilities and difficulties found during the DU based on Sport Education.

Participants

The intervention was attended by 40 students from a high school second year class, which took place in the

second semester of 2018. One of the researchers was the teacher of Physical Education in the class in question. The research was approved by the Ethics Committee under protocol No. 2,739,512.

DU planning using the Sport Education model

Eleven meetings were held for the implementation of the DU, each one lasting two 50-minute classes, totaling 22 classes. The structuring of the same, based on the Sport Education model, took place from the six main characteristics of the model: season, affiliation, formal competition, culminating event, record keeping and festivity. The last two meetings were destined for the culminating event, which was prepared and organized by the participating students (Table 1).

Table 1
Organization of DU meetings based on Sport Education.

No. Meetings	1	2	3	4	5	6	7	8	9	10	11
Steps											
Initial circle 5 to 10 min										Culminating event	Culminating event
Work focused on learning the modality (handball) 50 to 60 min											
Championship 20 min	Formal competition games										
Final circle 5 to 10 min											

Note. Source: adapted from "The teaching of sports. Invasion sports: basketball, football, futsal, handball, ultimate Frisbee" by J. F. González, S. C. Darido, S. C. and A. A. B. Oliveira, 2017, Eduem, P. 50.

The meetings were organized into four main moments, namely: a) initial circle - with the intention of presenting the topics and remembering moments of later meetings; b) work centered on learning the sport - moment to provide an understanding of the operational principles and tactical intentions through games guided by the teacher; c) championship - as a characteristic of Sport Education, at the end of the meetings the holding of the formal competition; and d) final circle - moment of the final discussions with the students on the topic addressed.

Another aspect arising from Sport Education present in the implementation was the experience of different roles throughout the season. Right after the division of the teams, the roles that would be used during the season were presented: players, referees, officials and three media groups (tactical analysis group; referees analysis group; attitude analysis group). Thus, whenever two teams played, the third team was responsible for organizing the moment of the formal competition, assuming the functions defined for each role. At each meeting, students experienced a different role, alternating roles and tasks, whose organization was defined in advance, at the beginning of the DU.

Organization of the topics for the meetings

In the search to identify students' previous knowledge about handball, a Brainstorming activity was carried out at the beginning of the first meeting (Table 2). The class was then divided into three groups. Each group met and tried to answer what were the technical conceptual knowledge of handball. There was no research option available, the answers came from the students' own experiences. This same activity was applied in the last meeting, to try to identify what the students have learned throughout the DU.

As a second strategy, even in the first meeting, a diagnostic game was performed to verify the students' body knowledge, whose analysis served to propose and structure the contents that could be developed to improve their performance (Table 2). Inspired by González & Bracht (2012) proposal, the main tactical and understanding problems of the rules were identified, creating a list with the main difficulties. Then they were hierarchized, starting from those that presented greater limitations for the development of the game.

Based on these difficulties, the learning objectives for each listed limitation were elaborated, which later originated the topics for the classes. A lesson plan was

developed for each theme, which corresponded to a meeting. The topics addressed were based on the operational principles of team invasion sports: maintenance of ball possession, progression towards the target, hitting the target, preventing/hindering the opponent's progression, defending the goal and operating/playing with the rules of handball.

The tactical difficulties identified in the diagnostic game made it possible to elaborate the objective of the meetings according to the tactical intentions of the players (sub-roles). Thus, during the implementation of the DU, the teaching and learning process of the following technical conceptual knowledge of handball took place: (a) elements of sports performance (individual tactics) – Sub-roles: Attacker on the ball possession (AonB); Attacker off ball possession (AoffB); Defender of the ball (DoffB) and Defender on the ball (DonB); (b) elements of sports performance (game systems) – Offensive positional game system and zone defensive game system (6:0 and 3:3); (c) sports rules. The lesson plans were developed with a view to developing the bodily, attitudinal and conceptual knowledge of the sport (Table 2).

Table 2

Elaboration of topics

Meeting	Class	Topics	Technical conceptual knowledge	Bodily knowledge	Attitudinal knowledge	
1st meeting	1	Formation of teams for the season Initial Brainstorming Diagnostic game	Remember the objectives of the game and the internal logic of handball Remember the Basic Rules of the game	Experience the handball game	Team work Mutual respect Balance between teams	
	2	Formal diagnostic handball game				
2nd meeting	3	Maintenance of ball possession Teaching sports rules	Ball possession preservation Rules: Ball handling and passive play	Execute tactical intentions: Preserve ball possession, visualize before passing, appear to receive, look for empty spaces	Team work Exercise mutual respect	
	4	Season organization and preparation - Sport Education				
3rd meeting	5	Progression towards the target Teaching sports rules	Progress towards the goal Rules: The goal, goalkeeper area, goalkeeper	Execute tactical intentions: Pass the ball to a teammate near the goal; request the ball and appear to receive in progression to the goal	Team work Exercise mutual respect	
	6	1st round of the season – Sport Education				
4th Meeting	7	Progress towards the target Prevent/hinder progression to opponent's target Teaching sports rules	Identify the tactical elements of AonB/AoffB and DoffB/ DonB Rules: The throw-off, the throw-in, Goal-throw, Free-throw, Meter throw	Executing tactical intentions: progressing towards the goal quickly preventing and progressing towards the target, returning quickly and organizing collectively in front of the goal	Team work Exercise mutual respect	
	8	2nd round of the season – Sport Education				
5th meeting	9	Score the goal (create spaces to finalize) Teaching sports rules	Identify the tactical elements for creating spaces to finalize (fixing) Rules: Fouls and unsporting behaviour	Execute tactical intentions: AonB: to look before passing the ball, to create spaces by means of ball feints (fixation); AoffB: appear to receive, occupy empty spaces.	Team work Exercise mutual respect	
	10	3rd round of the season – Sport Education				
6th meeting	11	Defend the goal Teaching sports rules	Identify the tactical elements of DonB and DoffB Rules: disciplinary punishments	Execute DonB and DoffB tactical intentions to position themselves between the attacker and the goal, intercept passes.	Team work Exercise mutual respect	
	12	4th round of the season – Sport Education				
7th Meeting	13	Score the goal and defend the goal	Identify the collective tactical elements 6:0 defensive system and 3:3 offensive system	Execute the collective tactical intentions: defensive system 6:0 and offensive system 3:3	Team work Exercise mutual respect	
	14	5th round of the season – Sport Education				
8th meeting	15	Diagnose and evaluate the performance of the offensive and defensive tactical elements	Learning to assess sporting performance tactical elements of the AonB, AoffB, Defender of the DoffB and DonB	Recognize the roles played as attacker and defender	Team work Exercise mutual respect	
	16	6th round of the season – Sport Education				
9th meeting	17	Learn the classic and alternative organization of tournaments and championships	Organization of the Festival	Organization of the Festival	Team work Exercise mutual respect	
	18			? Uniforms, summaries, refereeing, decoration, production of videos and digital material, confraternization		
10th meeting	19	Festival/culminating event - Sport Education				
	20					
11th meeting	21	Closing and awards Festival/ Culminating event - Sport Education Final Brainstorming				

Note. Source: adapted from "Metodologia de ensino dos esportes coletivos (Teaching methodology of collective sports)" by J. F. González e V. Bracht, 2012, UFES, Núcleo de Educação Aberta e a Distância, p. 109.

Data Analysis

The data from the production instruments were treated through thematic analysis, a method that minimally organizes and describes the collected data, identifying, analyzing, interpreting and reporting patterns that present more emerging topics for the discussions.

The analysis included the five phases proposed by Sparkes & Smith (2014). In the first, a thorough reading of the documents was carried out by two researchers: (1) the first author of the article, professor at the school where the research was carried out and (2) the second author, co-supervisor of the study and professor at a Brazilian public university. In the second phase, these researchers separately generated initial codes for the sections of the focus group and field diary. Then a comparison was made of the documents and the codes generated by each researcher. In the third phase, the researchers identified emerging topics through the similarity between the codes. Arranged in an Excel spreadsheet, similar codes were painted in the same color. In the fourth phase, the verification and review of the emerged topics was carried out. In the fifth phase, the topics were nominated by the two authors.

After the thematic analysis, two major categories were reached for the presentation of results and discussion, which are: a) The roles of Sport Education in the learning of conceptual knowledge and b) Contributions of conceptual knowledge to the understanding of the game.

Results and discussion

The roles of Sport Education in learning conceptual knowledge

Through the focus group and Brainstorming at the beginning of DU, an attempt was made to analyze students' previous experiences with conceptual knowledge. When asked in the focus group about what they knew about conceptual knowledge of any modality, it was observed that most of the time, in previous years, knowledge was presented superficially and/or did not exist during Physical Education classes, as verified in the reports:

«In my case, previously I only learned the basics, how it is a pass, and how it is done. And a little history of the modality. A little bit of the rules, but applying this knowledge on the court, we did not learn anything! I'd come on the court and do anything» (STUDENT 5, – FOCUS GROUP, October 16, 2018).

«I never learned anything from conceptual knowledge. In my Physical Education classes, the teacher would take the ball and leave it on the court» (STUDENT 3, - FOCUS GROUP, October 18, 2018).

In the initial activities, it was possible to perceive that the conceptual knowledge most pointed out by the students in their previous experiences concerned the rules of the game. Despite this, many students mentioned having a superficial knowledge about the subject, as can be seen in this report: «*I had also watched it; but I didn't apply it; I didn't know exactly what each thing was, like for example: fouls, cards, two minutes, those things I didn't know*» (STUDENT 9, - FOCUS GROUP, October 16, 2018).

Another indication related to the students' previous experiences was the lack of connection between knowledge for teaching sports. There were reports that most of the time, the knowledge related to conceptual knowledge was totally decontextualized from bodily knowledge. In other words, although they learned some rules about a certain modality, for example, the classes on the court had other directions: «*In elementary school we had the student notebook, so we learned what we had there, but sometimes we got to the court and it wasn't even that sport. So you had the rules in your notebook, but you didn't use them*» (STUDENT 10 – FOCUS GROUP, October 16, 2018).

For the teaching of sport in the school environment, it is necessary to understand the importance of developing bodily, conceptual and attitudinal knowledge in a joint and integrated way, so that the student is able to create meanings and establish relationships with body culture (González & Bracht, 2012).

In the daily pedagogical activity, to develop these three knowledges would be, besides promoting the experience of certain modalities, to transmit the benefits of the practice, the rules, critical relations with the varied media, to enjoy the sport as a conscious viewer, among other aspects. Therefore, it is necessary to ensure that students obtain a contextualization of information, and also, learn to relate with colleagues in order to respect the values involved in that modality (González & Bracht, 2012; Bettega, et al., 2018).

One of the strategies used for the development of technical conceptual knowledge, and also a particular feature of Sport Education, was the opportunity for students to experience different roles throughout the season. Siedentop (1994) reports that the DU must offer roles from institutionalized sport, so that students experience other functions in addition to participating

in the game. As mentioned in the research method, for the organization of roles and their respective functions, students were divided into three teams at the first meeting of the DU.

It was decided to rotate these roles throughout the classes. This strategy was adopted so that all students could experience the various functions previously defined and promoted an expansion of the opportunity for students to participate, according to the statement: *«I did everything in handball. I was a player, referee, official, media, and that made me excited, because it was never the same thing»* (STUDENT 5 – FOCUS GROUP, October 16, 2018). This strategy was pointed out as positive by two students, as can be seen in this example: *«It was cool, because in each class we could focus on a different role, so we were able to analyze a little bit of everything»* (STUDENT 1 – FOCUS GROUP, October 16, 2018).

The observations of Graça & Mesquita (2007) indicate the concern with equity also in the distribution of the roles for the season. Teams must ensure balance in the development of tasks, establishing cooperative and helping relationships between colleagues, prioritizing the participation of all in the formation of a learning web.

Sientop (1994) clarifies that due to the different roles that the model can propose, students need to perform their tasks to collaborate with the team, in order to stimulate responsibility and creativity. It is also an opportune time to have different experiences from those traditionally present in Physical Education classes. In addition, it is through the various functions that students can have a broader view of the phenomenon, enabling an understanding of bodily, conceptual and attitudinal knowledge.

Brainstorming activity revealed differences between before and after (Chart 1). In the second moment, the students presented more conceptual elements about handball, which did not appear in the initial moment. The roles developed during the implementation seem to have enabled students to have a sporting experience that encompassed this set of knowledge.

Through the two moments of the activity, it was possible to observe how the students developed their conceptual knowledge during the DU. The final Brainstorming of team C made it even more evident how the roles played a key role in the students' sports development (Chart 1). It is clear that they managed to list and mention various conceptual knowledge that had not been mentioned in the first moment of the activity, such as: the mentions of the sub-roles, the depth

in the rules of the game, the different possibilities of the sport – such as media and refereeing. In addition to these, attitudinal knowledge was also mentioned by students in the activity, such as respect for colleagues, cooperation/competitiveness and sport festivity.

Chart 1

Brainstorming activity (before and after implementation).

<i>Brainstorming (before)</i>	<i>Brainstorming (after)</i>
3 steps	AoFB (Attacker without ball possession)
Can not enter the area	AonB (Attacker with ball possession)
Punishment – 2 minutes off	DonB (Defender of the attacker with ball possession)
Barrier (Defense)	DoFB (Defender of the attacker without ball possession)
Player positions	Empty spaces
Goalkeeper line	Positions
Make room in the barrier with the pivot	Feints
Grab	Zero step
Defense and attack substitution	Rules
Tactical blocking	Handball feints
	Work the ball
	Passes
	Strategies
	Tactics
	Technique
	Self evaluation
	Defense
	Creativity
	Effort/performance
	Proactivity
	Respect in the team and with opponents
	Information/disclosure
	Team work
	Media influence
	Blue card
	Sport treated as a party and not just as competitiveness
	Referee positioning and gestures

However, during the implementation, some difficulties of the students related to the role assignments were also verified, especially when it came to the role of referee. Refereeing function – for demanding constant actions, quick decisions and the involvement of specific gestures – caused some students to feel uncomfortable. It was observed in the field diary that at some moments there were discussions between the students in the roles of players and the students in the roles of referees, as explained by one of the students: *«don't want to whistle anymore, I'm a disaster and yet everyone keeps calling me names»* (STUDENT 6 – FIELD DIARY, September 6, 2018). Such adversities were discussed during the interventions, however, some students reported that they did not feel very comfortable, as can be seen in this report:

«When I was refereeing, it was very hard and I found it bad. Because you have to be very alert, even trying was difficult. I was very lost, and I let the game go into chaos. So refereeing is very difficult and you have to know how to apply the rule, and this is not easy and it also has to be very fast» (STUDENT 7 – FOCUS GROUP, October 16, 2018).

Despite the difficulties and discomfort felt by some students, the activity seemed to have stimulated them to seek knowledge beyond the classes, as mentioned in this statement:

«There is a difference between knowing the rule

and knowing how to be a referee. Knowing the rule does not qualify you as a referee. Because in addition to the rules that I already knew, I went to research one day before being a referee, I read the rules at home and even then it was very difficult to be a referee» (STUDENT 6 - FOCUS GROUP, October 16, 2018).

It is important to highlight that the participation and intervention of the teacher is fundamental for the organization of students and their respective roles. Some works highlight the educational value of the model in the development of personal, social and sports skills, because it is a consolidated model as indirect instruction, where the student is established as the center of the teaching and learning process (Mesquita, Pereira, Araújo, Farias & Rolim; 2014; Wallhead & Ntoumanis, 2004; Spittle & Byrne, 2009).

As noted in the field diary, an example of experienced intervention was the organization of students in their respective roles during classes and mediations during championship games. As reported in the field diary: *«It was necessary to intervene at the end of the class on the events during the game. The students left the emotion above average and ended up arguing with referees and colleagues. During the final part of the class, students recognized the importance of maintaining respect and fair play»* (RESEARCHER – FIELD DIARY, September 13, 2018).

Siedentop (1994) highlights that motivational factors are very important for teaching sports in the school context. During the implementation it was noted that the distribution of functions and roles was an opportunity that aroused the students' interest, as mentioned: *«Because it is not that monotonous thing, like those classes that only have volleyball or futsal, and it moves us, it gets more exciting»* (STUDENT 9 – FOCUS GROUP, October 16, 2018). Students need to feel involved with activities and lesson planning so that they can develop knowledge related to the modality.

Contributions of conceptual knowledge to the understanding of the game

The technical conceptual knowledge are those that gather information, concepts, data and theories that allow the student to better understand the sport phenomenon under study and should help in a broader understanding of the modality, articulating concepts for a better understanding of the functioning of the game (González & Bracht, 2012).

As mentioned in the previous topic, in the diagnostic activities, the students revealed little knowledge about the conceptual knowledge of handball. The few who

approached some content, most of the time, cited the rules of the game. Only one of the teams presented aspects related to the technical conceptual knowledge, which made reference to the elements of individual or collective tactical performance, as observed in the initial activity: *«Barrier (defense); position of the players; goalkeeper line; open spaces in the barrier; tactical blocking»* (BRAINSTORMING TEAM C – DIAGNOSTIC ACTIVITY 1st MEETING, August 02, 2018).

As a strategy for the development of the technical conceptual knowledge of handball in the DU, it started from the limitations and potential of the students, to formulate learning objectives that collaborate in the systematization of the contents. As a foundation for the elaboration of the classes, it was adopted tactical-technical structure activities – games – and the orientation of the operational principles presented by Bayer (1994): Attack (Ball possession preservation, progression to the target, finishing to the target) and defense (ball recovery, preventing the opponent from progressing to the target, protecting the target).

As mentioned in the method, the organization of classes prioritized so that tactical problems were presented to the students during the «Initial Game». These problems and possible tactical-technical solutions were discussed during «Tactical awareness» and later developed in the task. Finally, students were given the opportunity to «put into practice» what was taught during the class, during the «Championship».

This strategy made it possible to expand not only the understanding of the game, but also the operational principles, the rules of action and the rules of the handball game. For those who play, understanding the game is related to «knowing what to do» in the various and unpredictable situations of the game. The bodily actions used to solve the unpredictability are closely related to the experiences acquired by the students. Information previously interpreted, concepts and specific knowledge of the modality can expand the possibilities of responses to the various situations that are imposed in the collective game.

As identified in the students' statements, they were able to understand the importance of conceptual knowledge for practice and signaled that it was possible to play more efficiently due to the acquisition of this knowledge:

«Sometimes we got stuck in the technical part of the game, like passing correctly, but when you knew the tactical part, its function, you were no longer afraid of making mistakes. Because you knew what to do, even

if you weren't very good at playing, I knew my role and helped the team» (STUDENT 5 – FOCUS GROUP, October 16, 2018).

The statement of student 5 points to the importance of learning «what to do» along with «how to do». Many actions in the game do not require sophisticated motor gestures. In defensive action, for example, the player must be between the attacker and the goal. This action, for example, does not require much skill, only the understanding of the game.

During the meetings, it was observed that the students were able to broaden their understanding of the practice, by presenting the concepts related to the operational principles of team invasion sports. Some of the student's statements during class allowed them to see that they were able to understand the importance of progression to the goal when the team has the possession of the ball: «When we have the ball we have to go forward» (STUDENT 7 – FIELD DIARY, August 23, 2018). Another operational principle related to the attack that was interpreted and observed in the students' statements concerns the maintenance of ball possession and the enhancement of the implement for a throw at the opportune moment to reach the goal, as mentioned: «We cannot lose the ball too fast, we need to have it and throw it well» (STUDENT 9 – FIELD DIARY, September 13, 2018).

Such narratives reveal the understanding of the operational principles of handball, which promoted a better understanding of the game, for having expanded the way they viewed the situations of the game. From the understanding of the operational principles during classes, it was noted that the roles and sub-roles of the players were also mentioned by the students, demonstrating an expanded view of the tactical possibilities of the game, as mentioned in two statements during the implementation: «Playing with the pivot makes it easier to score» (STUDENT 13 – FIELD DIARY, September 27, 2018); «Guys, can't you see» Student x» at the end?» (STUDENT 14 – FIELD DIARY, October 11, 2018).

In the focus group, in the same way, the students expressed their perceptions in relation to the understanding of the game and the association with the operational principles seen in the classes, as mentioned: «You leave the part of just playing, to a part that you understood what it was happening in the game, on the court» (STUDENT 2 – FOCUS GROUP, October 16, 2018).

These statements corroborate the indications of a greater understanding of the game by students. The

improvement in the understanding of the operational principles and sub-roles related to each player's role within the game was noticed even by the students themselves, as mentioned: «I think these students evolved because there was no technical charge, like if they scored goals or not, but they knew the concepts, the functions and that encouraged them to participate and play more freely» (STUDENT 2 – FOCUS GROUP, October 16, 2018).

With this understanding, the rules of action were also evident during the focus group's observations and quotes. Conceptualized as mechanisms necessary to achieve the basic operational principles of team sports, i.e., they are the actions necessary to achieve success in relation to the dynamics of the game, it was noted that the conceptual presentation was important for a tactical analysis of the functions of players and their individual actions. As presented within the DU, the rules of action were identified based on the roles of the players within the game environment: attacker on the ball (AonB), attacker off the ball (AoffB), defender of the ball (DoffB) and defender on the ball (DonB).

In this way, it made it easier for students to understand the basic actions required within each game situation, as observed during classes and communication between them: «Appear to receive, you are getting behind the bloquing. That way you can't get through. Remember that when you don't have the ball you have to go in the empty spaces» (STUDENT 5 – FIELD DIARY, August 9, 2018).

During the focus group it was also possible to identify that the rules of action were understood during the implementation and perceived as fundamental for the understanding of the functions of each player, as quoted in the student's statement: «Defender of the attacker with ball possession stay between the goal and the player...it is very clear» (STUDENT 2 – FOCUS GROUP, October 16, 2018); «Attacker without ball possession must always be visible, well positioned» (STUDENT 8 – FOCUS GROUP, October 16, 2018).

Through the analysis of the sub-roles it was observed that the students, besides understanding the rules of action and the functions of each player, started to identify these elements during the game, which gave them opportunities for a more accurate reading of the game. As students developed this knowledge during the meetings, they were able to discuss with colleagues and the team about game situations, as was observed in some statements during the focus group. Student 7, for example, demonstrated that he noticed some errors that happened during the game: «Sometimes players ended up taking someone else's role/position. And then we could see

these errors.» (FOCUS GROUP, October 16, 2018). Student 1 pointed out that understanding the game could be advantageous for the team: *«You had a greater vision of what happened in the game and then you could even use it as an advantage for your team»* (FOCUS GROUP, October 16, 2018).

This understanding also proved relevant for learning handball. Student 8, for example, commented during the focus group how significant the knowledge of the sub-roles was for him: *«Instead of just hitting and passing and running, the people on the team started to know more about what to do. Not just running back and forth and thinking this is okay»* (FOCUS GROUP, October 16, 2018).

Within a collective sports game, the performance of practitioners is closely linked to declarative and procedural knowledge. It is worth mentioning for the results obtained during the implementation, that even though the students had stated that they understood the subject, at some moments of the game they could not perform or even quickly forgot their functions. This situation is related to declarative knowledge (knowing the problems) and procedural knowledge (how to solve the problem), although students are able to declare *«what to do»*, they cannot perform in the game. It should be noted that these difficulties presented by the students are not a negative factor, but that they make clear the differentiation of the knowledge learned.

The strategy used during the implementation to teach the conceptual knowledge of handball led students to have an understanding and experience of the sport. Through activities that had learning objectives based on internal logic to understand tactical principles, the games led students to reflect on their functions, related to problem solving and not just the repetition of technical gestures of the sport. This positive meaning was verified in the speech of the students during the reflections: *«So, sometimes people didn't have a good pass, but they had a function in the game, this gave a meaning to the players»* (STUDENT 5 - FOCUS GROUP, October 16, 2018).

However, during the implementation some difficulties were observed regarding the understanding of the activities by the students. As the proposals increased in complexity, there were limits to the understanding of the objective of certain games, and they lost sight of the operational principles or rules of action that were being developed by the activity. In these cases, more than one intervention was necessary so that the students could reflect on the objectives and concentrate on the activity.

During the fourth meeting, the objective was to

teach tactical aspects of attack and group defense corresponding to the phase of progression towards the target. It was the first time that the functions of attackers and defenders were developed simultaneously, exploring the situation of numerical superiority through games. It was observed that the students immediately had difficulty understanding the game: *«This activity is difficult to understand»* (STUDENT 12 – FIELD DIARY, August 30, 2018).

It is noteworthy that the use of the game can be understood as a complex and dynamic system, that is, multiple components that interact over time, where perception and tactical action become inseparable. It is about understanding that the use of games cannot be defined by the naive idea of external approximation of repetition of game elements, such as the rules, tactics and technical gestures of the respective modalities. Likewise, it is not about *«playing to play»*, based only on the idea of the player's satisfaction, and even less on the deceit of the ludic and alienated pedagogy, which seeks only pleasure and excludes the player's need for reflection and work (Bettega, et al., 2018; Caldeira, et al., 2019).

Thus, it is necessary for the teacher to select and organize the contents to be developed, if possible based on a diagnosis of the students' prior knowledge. This alignment collaborates so that one can always have a clear definition of the objectives of the class and the means that will be used to favor the teaching, experience and learning process possible through the tactical problems presented by the students.

With the progress of the DU it was possible to promote knowledge about the rules of the game. It is noteworthy that even though conceptual knowledge was the most cited by students in diagnostic activities, many situations were still unknown, such as:

«In my case, I didn't even know the name of the positions or where each one stayed or did. So I played but I didn't know how to play, I just tried to play, but I didn't know how to do it, now I know how to do it and I know the rules, despite knowing how to apply as a referee. And also to know what you can or cannot do» (STUDENT 6 – FOCUS GROUP, October 16, 2018).

The rules that have recently been updated by the International Handball Federation (IHF) and are already valid since the Rio de Janeiro Olympics in 2016 were also unknown to students. The seventh player rule (cited by students as goalkeeper rules), now widely used by competitive teams, can favor important situations and tactical readings within the game. As mentioned by the

students in the focus group, their knowledge contributed to a greater understanding of the game's tactical possibilities: «*I didn't even know that there were rules for the goalkeeper and that he could be a normal line player, score goals and everything else*» (STUDENT 4 – FOCUS GROUP, October 16, 2018).

Knowing the rules in a general way, helps the players to better understand the game and make correct decisions during the match, directly influencing actions to solve the problems inherent to the unpredictability of team sports, as cited by the students: «*Knowing the rules was very important, because we played before, but did not know exactly what we could or could not do. As you were showing the right rules, our game just got a lot better*» (STUDENT 2- FOCUS GROUP, October 16, 2018). Just as the understanding of individual and collective tactical elements contributes to a conscious and oriented performance, knowledge of the rules is a facilitator in solving problems that arise from game situations. This perception is able to guide the functioning, strengthening the critical understanding of the modality. Addressing the concepts related to the rules of the game, enabled students to have a more accurate view of it, reduced basic errors and contributed to a more fluid game.

The analysis of the knowledge related to the comprehension of the game, allowed to verify that there was a conceptual appropriation of the approached topics. The students started to communicate with the terms learned, to use strategies based on the tactical logic of the sport, and also understood the organization of the game structure. The presentation of the technical conceptual knowledge of handball was important for an understanding of the action rules of each sub-role and provided a practical understanding of the operational principles of the modality, contributing to a qualitatively better level of play. It also made it possible for students to observe and analyze the game tactically, which increased their understanding of the phenomenon.

Conclusions

The DU based on the Sport Education model presented possibilities for teaching the technical conceptual knowledge of handball to a group of high school students. With the perspective of overcoming the traditional teaching model, based on the simple fragmentation of technical gestures, it promoted an expanded experience of the modality, especially through conceptual knowledge, but also corporal and attitudinal knowledge.

The main results revealed that, in relation to the roles and functions assumed and performed by the students, they were able to mobilize the teaching and learning process of the technical conceptual knowledge of handball and proved to be an opportunity for the development of skills and abilities of the modality, besides promoting involvement, enthusiasm for the practice and motivation for the development of tasks. Through the roles, the different ways of getting involved with the sport were presented, which provided knowledge about this universe.

Regarding the relationship between conceptual knowledge and the understanding of the game, the results indicated that students played more efficiently from the acquisition of this knowledge, despite showing difficulties of understanding at some moments.

In general, the DU offered possibilities to increase students' understanding of the game, which contributed to a greater mastery of tactical handball skills and promoted an improvement in the level of game and competition. It also provided an opportunity for a better understanding of the rules, a more refined appreciation of the game, in addition to stimulating and motivating the practice of sports during classes.

It is worth mentioning that the results of the experience presented do not assume the idea that teachers should simply reproduce the stages and characteristics established by the Sport Education model, but rather an adaptation and/or transformation to the pedagogical practice.

From the experience presented, one can see the perspective of expanding the knowledge acquired and disseminating strategies, together with other enthusiasts in the area, with the aim of expanding the development of current proposals of Sport pedagogy, for new possibilities to resignify the teaching of sport in school Physical Education. Also, implementations in context with other cultural and social realities, more classes and the use of control class for data comparison are suggested.

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