Central Center of Social Representations and the Educational Field

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ABSTRACT
The way of apprehending the content of social representations is rescued on two orientations that are not exclusive. The content is treated as a structured field or as a structuring core. The subject who expresses a representation and constructs the real object is imagined and symbolized by its representation(s), in a continuum of (re)modeling. Here the structuring core of the social representations of the field of educational research is revealed, which highlights: Subject-Representations-Object. From the great theory elaborated by Moscovici (2015) emerge complementary theoretical currents. The main theories are those led by Denise Jodelet, Willem Doise and Jean-Claude Abric (focus of this essay). The objectives of this theoretical essay were: i) to present in a synthetic way the basic propositions of the Central Core Theory and ii) to present an experience report using TNC in the educational field.

Keywords: Education, Innovation, Theory of Social Representations, Central Core, Teaching-Learning.

1 INTRODUCTION

The choice for the theoretical essay was due to its characteristics, that is, it is a textual genre that aims to discuss a certain theme. It consists of the exposition of the author's ideas and points of view on the subject, but based on referential research – that is, what other people also say about it – and conclusion. Therefore, the theoretical essay studies the object of study in its dialectical condition.

In this sense, the intention was to present this theoretical essay entitled *as Central Nucleus of Social Representations and the Educational Field* having as support the Theory of Social Representations (SRT). It is recognized in academia as the "Great Theory", a theoretical tool developed by Serge Moscovici (2015), which had the potential to understand and explain psychosocial phenomena.

The way of apprehending the content of social representations is rescued on two orientations that are not exclusive. Content is treated as a structured field (e.g. information, images, beliefs, values, opinions, cultural and ideological elements, etc.) or as a structuring nucleus (e.g. the body, culture, child, woman, group, disease, health, work, etc.) (Jodelet, 2001; Moscovici, 2015). The Subject (epistemic – psychological, cultural, social and collective) that expresses a representation and

constructs the real object (human, social, ideal and/or material) is imagined and symbolized by its representation(s), in a *continuum* of (re)modeling. Here the structuring core of the social representations of the field of educational research is revealed, which highlights: Subject-Representations-Object (Brito, 2023).

But how to understand this phenomenon of social representations in the field of educational research? Having as support Moscovici (2015) we must take into account the thought being considered as environment (cultural and social); our society as a thinker; what may be familiar and unfamiliar; anchoring and objectification as two processes that generate social representations; the causalities of the right and the left; and the status of social representations as independent variables (stimuli or mediators?).

Only in this way will it be possible to understand this phenomenon of social representations in the field of study and research in the educational area. From the great theory elaborated by Moscovici (2015) emerge complementary theoretical currents. The main ones are those led by Denise Jodelet (procedural approach, also called Cultural), Willem Doise (societal approach, also called sociodynamics or Geneva School) and Jean-Claude Abric (structural approach, also known as the Midi School) (Sá, 1996).

Among the complementary theoretical currents Abric apud Sá (1996) was the only one who created a new theory, but the author makes it clear that his understanding of social representations starts from the notion elaborated by Moscovici. Aric's Central Core Theory (CNT) understands that social representations are organized in a central and peripheral system. The central nucleus is characterized by the most stable elements, while the peripheral elements are the most susceptible to change. Abric also understands that social representation is a guide to action, as it guides social relations.

The objectives of this theoretical essay were: i) to present in a synthetic way the basic propositions of the Central Core Theory and ii) to present an experience report using TNC in the educational field.

2 THE CENTRAL CORE THEORY

Before starting the description, as well as presentation of the concepts and definitions about the Central Core Theory (TNC), it is necessary to remember that our objective here is to present this theory in a synthetic way, so we suggest a careful reading in the work described by Sá (1996), mainly about the experimental antecedents of the theory, as well as the methods and techniques of research of the central nucleus.

For a better visualization of TNC, regarding its social impact on educational research, we present in table 1, as an appendix, the main works found in *Google Scholar* between the years 1996 to

2023, but the *Publish or Perish software* was used for this search. The search was performed using the following descriptors: "Central Core Theory"; "Education"; "Research." The choice criterion used: citation by year, title and abstract of the researches having relation between TNC and Education, regardless of the educational cycle.

The reason for making this time frame (1996-2023), in the researches presented here, is due to the fact that we are assuming the relevance that Sá (1996)[1] had on this theme in Brazil. That is, he was the author of several national and international publications in the fields of analysis of social behavior and social representations, as well as on the dissemination of TNC.

2.1 FROM THE BASIC PROPOSITIONS OF THE CENTRAL CORE THEORY

The theory was first proposed in the last century in 1976, being presented by Jean-Claude Abric, at the Université de Provance, under the hypothesis regarding the internal organization of social representations (Sá, 1996).

Sá (1996) makes the following reference from Abric's research,

> [...] not only are the elements of representation hierarchical, but, in addition, every representation is organized around a central nucleus, consisting of one or a few elements that give the representation its meaning (p. 62, emphasis added).

This idea of centrality was not new, because in social psychology it was investigated from the phenomenon of attribution, in which Heider (1927) apud Sá (1996) identified a tendency to attribute the events perceived in the environment to unitary nuclei of meaning that would give global meaning to the diversity of immediate stimuli. That said, it made it possible to put order and understand the reality lived by individuals or groups.

Sá (1996) continues to describe in his work some relevant propositions that should be highlighted and that, therefore, deserve attention, they are: a) the concept of central nucleus and its functions; b) the internal organization of the representation in terms of central and peripheral system and; c) the role of peripheral elements in the functioning of representation.

2.2 THE CONCEPT OF THE CENTRAL CORE AND ITS FUNCTIONS

Abric apud Sá (1996) describes that in essence "all representation is organized around the central nucleus, which determines at the same time its meaning and its internal organization". This internal organization, the central core, "is a subset of representation, composed of one or a few elements whose absence would disrupt the representation or give it a completely different meaning (p. 67)."

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[1] As an example, about its impact, we indicate the website https://www.2023.jirs.com.br/ of the XII International Day and the X Brazilian Conference on Social Representations (XII JIRS/X CBRS). It was held in 2023 in the city of Rio de Janeiro, Brazil. The highlight was the Celso Pereira de Sá Award.

In addition to what was previously described, another researcher who deserves attention and who contributed significantly to the theory was Claude Flament, because Abric attributed to him the merit of having completed and nuanced the theory by demonstrating the decisive role of elements that were not part of the nucleus, that is, the peripheral elements. These had a function in representation, because the **set of practices** and **discourses** (emphasis added) on a given object "[...] however diverse, divergent and contradictory it may seem, it is effectively coherent when taken in its entirety (Sá, p. 68)." To this end, he proposed a distinction between autonomous representations (there is a central nucleus present) and non-autonomous representations (there is an absence of a central nucleus), since it is possible to observe in the field of social representations their existence (non-autonomous), but without a clearly defined central core, but several peripheral elements that can be part of the same object that will give meaning to it (represented object).

But what would be the fundamental functions of the central core? There is a generative function and another an organizing function. In the first of these, the element by which the meaning of the other constitutive elements of the representation is created and/or transformed (it is an element that gives meaning, a value to the object represented). With regard to the organizing function, it determines the nature of the ties that unite the elements of representation (unifying or even stabilizing element of representation).

The central nucleus can also assume two dimensions: a functional dimension and a normative dimension. In the functional dimension, its purpose will be operative, so they are elements directed to the accomplishment of the task, while in the normative dimension, the elements will be related to a norm, a stereotype, an attitude; that is, they are dimensions dependent on socio-affective, social and/or ideological situations.

2.3 THE INTERNAL ORGANIZATION OF THE REPRESENTATION IN TERMS OF CENTRAL AND PERIPHERAL SYSTEM

To understand this central and peripheral organization, Sá (1996) emphasizes some peculiar characteristics of a social representation, as well as its mode of functioning between them, that is, at the same time, the representations are stable and rigid, as well as mobile and flexible. And yet, they are consensual, but also marked by strong interindividual differences.

The central system (central core) is linked directly to historical, sociological and ideological conditions; in a certain sense to a particular paradigm. It is strongly marked by collective memory. Therefore, this nucleus has a consensual function (homogeneity is defined here) of a social group (or the perception of them). It is stable, coherent, resistant to change (there is continuity and permanence in the representation).

However, the peripheral system assumes another function, that is, it is indispensable to the central nucleus, since it makes the interface between the concrete reality and the central system, in effect, constantly updates and contextualizes the determinations of a representation. In general terms we can say that, the central system is normative and the peripheral system is functional. Its first function is, therefore, the concretion of the central system in terms of positions or conducts. In other words, the peripheral system is more sensitive to the environment, susceptible to greater adaptability when compared to the central system.

Sá (1996) proposes a synthesis between the two systems, which can be seen in table 1.

Table 1. Types of cognitions of a social representation (central system and peripheral system)

Central system (Absolutes)	Peripheral System (Conditionals)
Linked to the collective memory and history of the group	Allows integration of individual experiences
Consensual; Defines the homogeneity of the group	Supports group heterogeneity
Stable, coherent and rigid	Flexible, withstands contradictions
Resistant to change	Evolutionary
Not very sensitive to the immediate context	Immediate context sensitive
Functions: generates the meaning of the representation; Determines the organization	Functions: Allows adaptation to concrete reality; Allows differentiation of content; Protects the central system

Source: adapted from Sá (1996, p.74-5)

2.4 THE ROLE OF PERIPHERAL ELEMENTS IN THE FUNCTIONING OF REPRESENTATION

The central point about the role of peripheral elements in the functioning of representations is due to the fact of the conditionality hypothesis. A cognition is prescriptive and/or descriptive. Prescriptive is a cognition relative to action, so it will be likely to be affected. As examples we can say that: it is necessary to do...; one can do...; it is desirable to do..., etc. It would be a fundamental link between cognition and the behaviors that are supposed to correspond to them.

With regard to descriptive cognition, it is more common, mainly due to the way research is conducted, that is, through qualitative instruments, such as when applying questionnaires and/or interviews to subjects about a certain object. In other words, descriptive cognitions are part of the subjects' own discursive process when they represent a particular object.

An observation to be made in prescriptive cognitions concerns the distinction between an absolute or unconditional prescription and conditional prescriptions (Chart 1). And yet, Sá (1996) describes that, in the domain of social representations, cognitions are massively conditional. As an example, it presents a possible form of verification, that is, one can ask the investigated subjects: What is the prescription in such a case particle? Indeed, it will be easy to grasp these conditional prescriptive cognitions, at least in theory.

3 THE TRANSFORMATION OF SOCIAL REPRESENTATIONS FROM SOCIAL PRACTICES

For this transformation of social representations to actually occur, it is necessary to understand the domain of social practices. But are they the social practices that determine the representations, or is it the other way around? Or are they interdependent, so are they inseparable?

Sá (1996), throughout several researches, reinforces this interdependence, so there is sufficient evidence over time to support this idea with research developed by the group in several countries, which were highlighted in Brazil, France, as well as in the United States of America, from 1989 to 1994, remembering that in his book it can be verified between pages 88 to 91, with better detail on this evidence.

Flament apud Sá (1996) presents a sequential scheme on this dynamic, that is, passing from a Modification that occurred from social practices; moving on to a Modification of the conditional prescribers and, finishing this process, to the Modification of the absolute prescribers, thus reaching the central core of a social representation.

After having presented in a synthetic way the basic propositions of the Central Core Theory we will present our second objective, that is, to present an experience report using this theory, but in the educational field, specifically in the area of Physical Education, in Technical High School, from the experimentation of a didactic sequence to explore attitudinal contents, but with an emphasis on cooperation (Souza, 2023).

4 EXPERIENCING THE CENTRAL CORE THEORY IN THE EDUCATIONAL FIELD

The research presented here was part of the dissertation of Professional Master's Degree in Education, being carried out at the Municipal University of São Caetano do Sul (USCS), being defended by Souza (2023), under my guidance.

School Physical Education uses culturally valued activities in a given group to provide a motor base that allows students, from body practices, to understand, enjoy, criticize and transform their concrete reality. In fact, it is expected to build competencies and skills in physical education classes integrating values and attitudes of cooperation from pedagogical strategies that can make sense to them. One possibility is to explore didactically, from the construction of sporting events, this construction experienced by them.

Thus, the intention in this research was to develop in school physical education classes, in the modality of High School, with Technical Professional Qualification (Mtecs), the notion of attitudinal contents after experiencing a sporting event (Named by the students by Voleitec), which can be classified as a <u>social practice</u>.

4.1 STUDY DESIGN, METHODS USED AND RESULTS

4.1.1 Study design

The research is classified as qualitative, descriptive and interpretative in nature, with characteristics of Design *Experiment Research (*DER), as proposed by Cobb et al (2003). To understand the research procedures there are three phases to be elucidated as: Prospective phase (prepares the ED), Reflective phase (leads to ED) and Retrospective phase (analyzes what occurred in the ED).

The study was developed in the municipality of Santa Bárbara D´Oeste. These subjects were intentionally selected (n=168), considering as inclusion criteria only the initial grade of this teaching modality, so that they could replicate this experience in other contexts of the body culture of movement, in the years following their formation.

As described by Bardin (2015), the results of a survey can be considered as the relief of the observed phenomenon. In our case, the phenomenon observed was sport as a phenomenon of body culture of movement. As a strategy used the sporting event (Voleitec) built and experienced by the students of technical high school, in the perspective of a didactic sequence, with the intention of exploring the attitudinal contents, focusing on cooperation.

4.1.2 Of the methods used

As the choice of the research method, the Central Core Theory (TNC) was chosen (Sá, 1996; Abric, Moreira and Oliveira, 2000) a strand of the Theory of Social Representations (SRT) (Moscovici, 2015), which seeks to understand how a given subject is shared by individuals from the same social group, in our case, students who are enrolled in the modality of High School. TNC suggests that social representations are composed of two systems: the Central Core (NC), which is formed by the most important concepts and organizes the others, and the Peripheral Elements, which are flexible and sustain the core.

The methodology applied for this type of research is through the use of the Technique of Free Association of Words (TALP), or also called Free Evocation of Words (ELP) which consists of the respondent listing which are the words that come to mind according to another word, called the inducing theme. In our case the inducing theme was: "Thinking about the Voleitec sporting event quote the first 5 words that come to your mind".

Then, they were asked to be placed in order of importance, that is, 1 = most important and 5 = least important. After this procedure, the participants were asked to justify the words used, thus generating a descriptive text.

As for the data analysis, it was based on matrix analysis (Camargo and Justo, 2013) supported by the *IRaMuTeQ software (Interface de R pour les Analyses Multidimensionnelles de Textes et de*

Questionnaires). It allows one to work with matrices that involve categorical variables and lists of words, such as those obtained from tasks of associations or free evocations (Sá, 1996). In this case, the *software* enables frequency counting, chi-square calculation, similarity analysis and prototypical analysis.

Similarity analysis is based on graph theory and seeks relations of objects of a given set. Its formula is: G (V, E), where G stands for graph and is composed of vertices (V) and several bonds between two vertices (E). It allows to identify the co-occurrences between the words and its result brings indications of the conexity between the words, helping in the identification of the structure of the content of a textual corpus. With regard to the prototypical analysis, it provides the creation of a four-house diagram for the study of the centrality or not of the evoked words (Called by Vergès quadrant).

4.1.3 From the results

The data decoded from the questionnaire revealed that the profile of the students (n=169) involved in Voleitec were mostly female, making up about 124 (73.4%) students and 43 (26.6%) males. Regarding the grades involved, most students from the 2 years were observed, with about 114 (67.4%) and about 55 (32.6%) from the 3 years. When asked about the type of participation in the event, it was possible to verify that 36 (21.6%) were players, 99 (59.3%) participated as organizers and 100 (59.9%) as spectators. It must be remembered that they could choose more than one option, since some students participated in the organization and also as players.

In the prototypical analysis *the software* created a diagram of four houses to represent the centrality as well as its peripheries (Called by Vergès quadrant). It was possible to verify an average Frequency (F^2) of words of 12.71 and an Average Order of Evocation (OME) of 2.78. Taking into account the quadrant it was possible to organize the central Nucleus, or also called centrality, as well as the words evoked in the four houses (Central Nucleus, first periphery, elements of contrasts and second periphery).

In Figure 1, it is possible to observe the central, peripheral nucleus (First and second periphery), as well as the contrast elements, after the application of the technique of free association of words (TALP), as described in the methodology. It was possible to verify that the centrality of the students' thinking, after experiencing the Voleitec, are represented by the groups of students by the Organization (f=44; OME=2.0), followed by Responsibility (f=27; OME=1.7,) Union (f=21; OME=2.5) and Respect (f=15; OME=1.7).

With regard to the first periphery, the data revealed the Animation (f=36; OME=3.2), Fun (f=35; OME=2.9), Twisted (f=29; OME=2.8), Cooperation (f=21; OME=2.8), Competitiveness

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[2] The letter "f" represents the average Frequency of the words quoted by the students and the expression "OME" means the Average Order of Evocation of them. The OME was mentioned from the most important (1) to the least important (5), according to the meaning given by the participants.

(f=16; OME=2.9) and Dedication (f=15; OME=3.3) as referred words. In the second periphery, Impairment (f=12; OME=3.2), Support (f=11; OME=3.3), Emotion (f=10; OME=3.3), Participation (f=9; OME=3.3), Focus (f=9; OME=2.8) and Learning (f=9; OME=3.3), among others, but we focused only on the first six words, only for illustration purposes, but it is possible to verify in Figure 1 the others mentioned.

As for the contrast elements, it was possible to observe the Collaboration (f=11; OME=2.6), Fun (f=9; OME=2.4) and the Supporter (f=7;OME=2.7).

Figure 1. Central nucleus, first periphery, contrast elements and second periphery after application of TALP (Free Association of Words Technique)
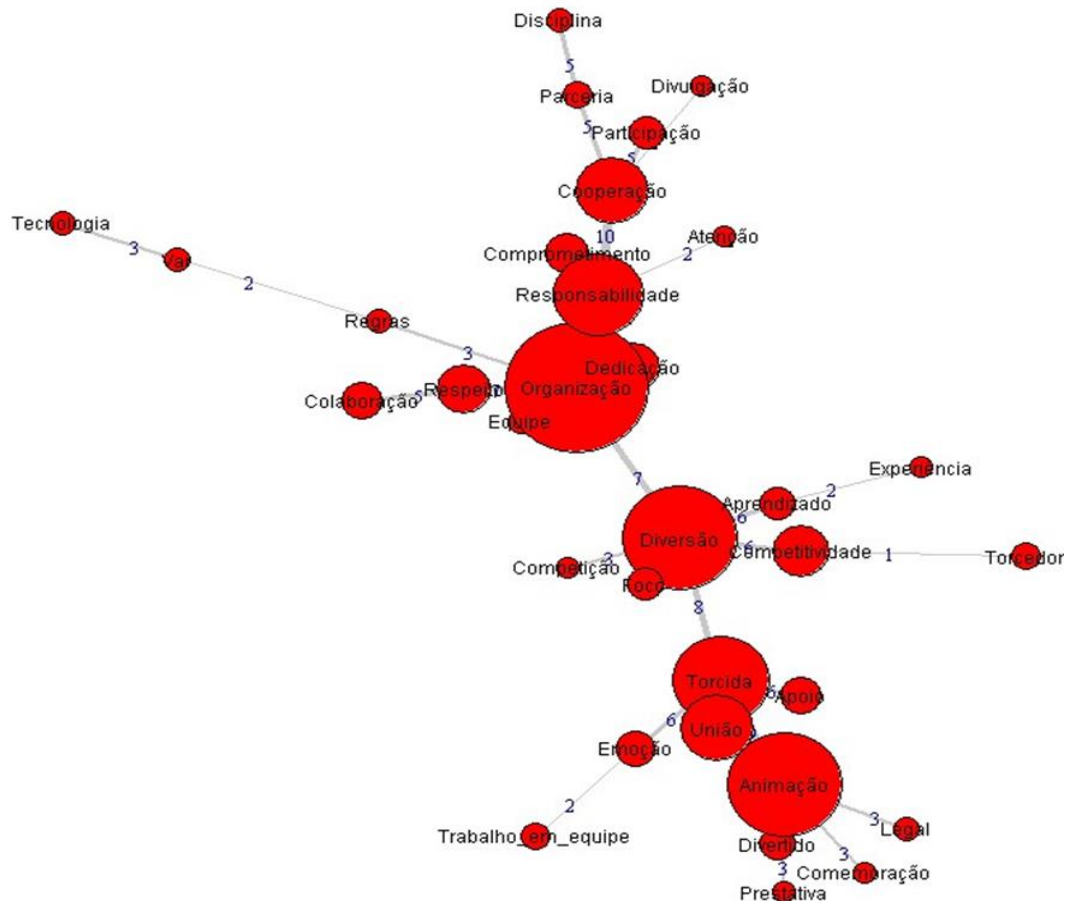

Source: Figure organized from the *Iramuteq software*.

In Figure 2 it is possible to verify the analysis of similarity and identify the co-occurrences between the words and its result brings indications of the connectedness between them, helping to identify the structure of the content of a *textual* corpus.

A first analysis can be verified that the central core (Organization) is connected with the first periphery (Fun), just as the fun is linked to the cheering and animation. Technology, VAR and rules are linked directly to the organisation. Cooperation, the focus of the research, was linked to responsibility, as well as in the organization.

Figure 2. Analysis of the similarity of the evoked words and their co-occurrences

Source: Figure organized from the Iramuteq software.

But what about the justifications described by the students at the time of the choices of the words evoked? We try to present, just below, some descriptions of the main segments of texts that can corroborate the presentation of our findings. We begin, next, presenting some sentences that represent the central nucleus.

The most frequent word was Organization and, after statistical analysis (Salience) it was possible to verify a Chi-square value ($\kappa^{2=13.42}$) higher for Responsibility ($\kappa 2=7.98$), as well as for Respect ($\kappa 2=7.74$) and Union ($\kappa 2=3.75$). However, what was represented from these lexicons, that is, what was the semantic value attributed by the students after having experienced the sporting event called Voleitec?

Some of the students even described that

The first things that came into my head in relation to my participation, of playing for a good organization, for any type of project or work, it is fundamental: teamwork, commitment, responsibility, great dedication and creativity of everyone involved;

We had more responsibility to make a cool event, we had a greater respect for the event and people in general, without taking the fun out of the process;

The organization was the most important point of all, because without it nothing of everything that happened would be possible to be realized all the words in which I chose relate to each other

Responsibility and help of all , thus resulting in the fun and entertainment of all, also bringing the interaction between the students and other participants, in my opinion could have been more publicized, the organization

I had experiences that I will take throughout my life, the inclusion in the organization of the event brought us great emotions and high responsibilities, made us see the event through other eyes, which also brought a lot of empathy

Without organization we would not have an event held successfully, without new ties to people, we would not make new friends, without competitiveness, we would not have a game with emotion, skill is a great virtue for those who have not yet developed and entertainment brings fun to everyone, without organization we would not have a good event

If there was no organization and commitment, it wouldn't happen without the honesty of refereeing, it would be a horrible game, without fun, it wouldn't be worth doing and by being in the organization I learned a lot of things about the sport and how to do an interclass.

That despite everything we act with education and equality when refereeing the games without organization, we would not have a pleasant event, without entertainment, we would not have fun and without companionship we could not have a good participation in the games;

In relation to the first periphery, we highlight Cooperation ($\kappa2=43.87$), Animation ($\kappa2=26.46$) and Fun ($\kappa2=9.34$) in which students describe these feelings related to their colleagues, that is,

The partnership between all the courses was indispensable for the completion of the project I believe it was a great experience for all of us responsibility, creativity, cooperation, unity and group work

Responsibility, commitment and cooperation organization everyone in the school did their best to make the event work and that everyone participated and everyone had fun even if they did not win

For me it is very important the cooperation of everyone for a better performance in the activities and a lot of responsibility, cooperation was extremely important, because we need to work all together to everything can work organization the event could not be held in the absence of organization

The excitement of being with friends cheering for the same thing and also seeing our classmates playing makes everything more enjoyable and fun for a volleyball game to occur well the support of the course students are essential for a presence on the field motivating persistence on the court

I hope that this year there will be enough events like this to make me feel this way more often I helped my room in the cheering and support of the players I imagine that the interclass was something extremely fun good to unite with the whole school and laugh among friends

I chose these words because it is good to have the balance so much to want to win, but to know how to have fun and rest I helped my room in the cheering and support of the players not losing faith even for a second cheering because I was cheering for my room

Seeing the animation of the crowd just by the fact of watching was already invigorating not to mention that it leaves a little of the daily life and relieves the tension between the rooms that came together to make the voleitec happen

We painted our faces and made war cries as a way to show support and cheering for the players and although it was a project we had a lot of fun with it all

The laughter is related to animation and the crowd was a very relaxed moment, but also with a little tension because I'm a little competitive and so I spent a little bit of anger and happiness

As a fan, I feel that my role is to support the players, show my excitement when they score and raise the spirits of the team, even when losing as a fan, I am also in expectation at every moment waiting for the points and cheering for the victory of the team;

> *As a spectator I really enjoyed the event and the way it was organized the event was a lot of fun and because it was the first time I thought the organization was good I hope to participate more often as a spectator*

The words highlighted in the elements of contrasts, as well as the second periphery will not be presented for the purpose of presenting the results, since the Chi-square value was not significant, since we are assuming the unveiling of the relief of the observed phenomenon (Salience) from the central nucleus, as well as in relation to the first periphery, even though they have a function in the organization of social representations for the group, due to the Voleitec event, as presented in the TNC concepts.

5 FINAL CONSIDERATIONS

We chose the theoretical essay due to its characteristics and that it studies the object of study in its dialectical condition, in fact, our object of study was to understand the Central Core Theory (TNC), in a synthetic way, as well as to present scientific evidence of its application in the educational field.

Thus, it is necessary in the field of educational research to unveil the elements that can be captured as types of differentiated cognitions (Absolute and Conditional), therefore organized in a central and peripheral system, each with its specific functions and necessary to social representations (internal organization). That is, at the same time that *one* or *some* elements of cognition may be responsible for generating the meaning of the object represented, in a stable way (central system), it is possible to verify that it depends on the adaptation to the concrete reality experienced by the epistemic subject, which enables its constant evolution, since it is sensitive to the immediate context, therefore flexible (peripheral system).

In relation to the scientific evidence in the educational field, specifically in Physical Education (PE) classes, it was possible to verify the observed salience, since we observed the elements that constitute the centrality (central system) of the school sport after the students experience the sporting event called Voleitec. Thus, it was possible to establish the basic principles of the Pedagogical Practice of School Sports (Conditionality Hypothesis), when the pedagogical intention of the PE teacher is to explore attitudinal knowledge, but with a focus on cooperation (peripheral system).

We highlight as absolute representations the Principle of Organization; Principle of Responsibility; Principle of Union, as well as the Principle of Respect. In fact, these principles will guide the attitudes of the students, therefore being the organizing bond of the meanings detached from the participants either directly (players and organizers), as well as indirectly (spectators of the event) provoked by the sporting event organized by the students, but mediated by the teacher.

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APPENDIX

Table 1. Publications from 1996 to 2023 that used the Central Core Theory in the field of Brazilian educational research

Authors	Title	Year	URL	Citation/year
NM Castro Crusoe	The theory of social representations in Moscovici and its importance for research in education	2004	https://periodicos2.uesb.br/index.php/aprender/article/view/3065	9.11
LB Machado, RA Aniceto	Central core and periphery of social representations of learning cycles among teachers	2010	https://www.scielo.br/j/ensaio/a/k74M4V3f8qpPMNfRJdhRQwB/?lang=pt	8.69
HJ Where	Conceptions of the environment of teachers of basic education and pedagogical practices in environmental education	2012	http://repositorio.utfpr.edu.br/jspui/handle/1/295	1.45
AM de Lima, LB Machado	Being interested: the central core of the social representations of the "good student" of teachers	2010	https://desafioonline.ufms.br/index.php/intm/article/view/2435	0.62
L Haddad	Early childhood education teacher? In search of the central nucleus of social representation from the analysis of	2009	https://revista.fct.unesp.br/index.php/Nuances/article/view/322	0.50

	free evocations			
MBS Sales, LB Machado	The central core of the Social Representations of violence against the teacher	2017	https://revistas.rcaap.pt/interaccoes/article/view/4178	0.83
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