

67 - AN INTERDISCIPLINARY DISCUSSION ON THE BODY

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INTRODUCTION

Discussing teachers' body conception and its possible consequences when it comes to teaching is the purpose of this paper, which stems from a wider research entitled "Body: teachers' conceptions of the basic education". The study is justified by the growing social and cultural demands considering knowledge from an interdisciplinary perspective. That way, our research question can be presented as it follows: what are the teachers' conceptions of body in the basic education?

The research, from a qualitative approach, presents as its empirical field a public school located in Teresópolis, Rio de Janeiro (Brazil). The school, as our research field, allowed us to approach its teaching staff. The data were collected through the question "what is your conception of body?". Data collection was accomplished via Whatsapp application, which was chosen due to its easy way to reach the teachers. The school coordination included us in the school Whatsapp group, formed by 78 teachers of the school; out of this total, we have received 23 answers regarding the body. We have brought to this reflection the total of nine conceptions expressed in sentences extracts of two physics teachers (PT), three chemistry teachers (QT) and four science teachers (SCT).

We have organized this reflection discussing, initially, considerations on the body at school; then, we have chosen to focus on the philosophical dimension considering the basic education, with a brief discussion about interdisciplinarity at school. The results and analysis on body conceptions in the school context are presented in a third moment of this reflection. In the final considerations, there is the need to discuss the cultural dimension of "body" and "interdisciplinarity" and other relevant issues under debate in society within the school place, since these topics are often not dealt with.

CONSIDERATIONS ON THE BODY AT SCHOOL

The school, what place is this? The school, as well as the church, the family, the union, the political party, is one of the institutions present in the society. It is a space in which attitudes and behaviors are made evident through the body and which also announces the presence of another human being in interaction. Who is the "other" in the school place? The other is someone different than me. They can be a classmate, a teacher, a school principal, a member of staff etc.

Generally, in schools, researchers focus on student's body movement, restricted to physical education classes and the recess. In other classroom activities, students must remain seated and silent. We must not disregard that the silence is full of meaning, it is not neutral or indifferent. We cannot disregard either the body movement of the other school professionals, marked by explicit rules or not, in the same space.

At school, while in interaction with someone else, many times, teachers, through their facial expressions and body movement, show emotions and the role they play in the interaction with the students, also before another teacher or the principals. The body posture and facial expression reveal emotions, display meanings for themselves and for the others. The face and the body convey the understanding of those who perceive "through signs that the cross them" (BRETON, 2009, p. 43). Thus, the institutional rules indicate to teachers, students and other professionals the convenient way to act before one another.

The communication or understanding of gestures is obtained by reciprocation of my intentions and someone else's gestures, of my gestures and someone else's identifiable intentions. It all happens as if somebody else's intention inhabited my body, or as if mine inhabited theirs (MERLEAU-POINTY, 1945 apud BRETON, 2009, p. 117). The same author adds that the intentions function as channels of emotions that affect us and the way they impact us stems from collective norms or behaviors that each individual expresses according to their personal style and values.

DISCUSSION ON INTERDISCIPLINARITY

According to Catarino (2013), it is possible to think the teaching from three dimensions: philosophical, pedagogical and political. The political one involves the perspective that every teacher has ideologies, whether conscious of it or not, so as to conduct their teaching activity, which, as a consequence, produces and legitimizes varied political, economic and social interests through their practices (GIROUX, 1997); the pedagogical dimension can be thought of in teaching based on dialogism and on consequent democracy in the classroom with students' participation as a way to raise their awareness and empowerment (FREIRE, 1987). Finally, the philosophical one stems from as a criticism of mechanistic reductionism and a dialectic understanding of the relation simple-complex, as a starting point for the interdisciplinary knowledge in schools. Despite these dimensions are not independent and interfere with each other, in this study, we have decided to focus on the philosophical one.

We know that discussions on the body have been of the interest of different researchers, as well as the dissociation between body and soul is not new; also, the desire to define them has been the focus of many studies for centuries. Discussing the notion of body in schools leads us to (re) consider the prevailing knowledge in the school space, the heritage of what has been called "Cartesian model", anchored in one of its methodological principles, namely: "divide each of the difficulties under examination into as many parts as possible, and as might be necessary for its adequate solution". (DESCARTES, 2007, p. 34).

Established on the principles: "disjunction", "reduction" and "abstraction", the aforementioned methodological precept leads us to think about the fragmentation of knowledge since it is not possible to understand the world completely due to its complexity. Based on Descartes' understanding, it is necessary to divide in order to analyze the parts. However, we know that it is greater than the sum of its parts. The mechanical explanation of the world by Descartes is also related to one's feelings, which are

understood in the distinction made between the soul and the human body.

When we consider the space of the basic education, we observe that this philosophical position is evident, generally, in the hierarchy of subjects, which generates, to some extent, the fragmentation of knowledge, making them increasingly specialized. This isolation is reflected even in the language used in different areas of knowledge (POMBO, 1993). This relationship with the knowledge (areas of knowledge) plays a major role in the schools (school subjects). It is the principle of disjunction that becomes effective and is widened in time management, noticeable in the schedules of different subjects.

One of the possible ways to reconstruct how we understand the world is the interdisciplinarity. Understanding interdisciplinarity from a philosophical dimension means considering that it is more than strategies for uniting subjects in schools, since it emerges as a need to comprehend complex knowledge. When we decentralize the complexity of knowledge to a simplified understanding of it, the principle of "reduction" becomes evident, considering that it is part of the mechanistic view of the world according to Descartes.

From Pombo's view, interdisciplinarity is not a new pedagogical proposal, since it arises at schools as an "emerging aspiration among teachers" (POMBO, 1993, p. 8). Obviously, an aspiration for overcoming disciplinary barriers, in an institution marked by excessive disciplinarity, would end up in the level of superficiality, of motivation, often in contradictory ways. The meaning of the word interdisciplinarity is vague and imprecise. As stated by Pombo, its meaning is yet to be invented.

It is fundamental to mention that, according to Pombo (op. cit.), in the field of interdisciplinarity, there should be communication between two or among more subjects so that a phenomenon could be understood, aiming at preparing a synthesis of a common object. Thus, it is necessary to reorganize the teaching and learning process and the collective action of teachers.

While every teacher can work with some level of interdisciplinarity, they can also strengthen the gaps between knowledge, generating more departures than intersections, both by the content chosen and the strategies used in the activities. In this sense, it is necessary that the teacher works towards the convergence of the areas of knowledge, and builds bridges among those different areas, from a critical attitude towards their own subject (POMBO, op. cit.), and remains open to other forms of knowledge. In order to achieve this goal, it is important to think about confluence zones among the areas of knowledge. We have chosen the term confluence to define the intersection among the areas, as well as to set the point where this can occur. Thus, the confluence refers both to the point of intersection and the knowledge that emerges from it, which is new, for the teacher and, consequently, to the teaching process. Therefore:

Reflecting upon your subject is not just considering it in its specificity, in the issues it encompasses, but also considering the shadowy areas that it leaves behind, what it hides or excludes as the rest, precisely as it is configured and developed, areas in which most likely other subjects are constructed, becoming areas of tension made of distance and proximity. (POMBO, 1993, p. 27).

We can infer interdisciplinarity as an intersection point among the knowledge of different subjects. We understand that the areas of tension, which are constituted of distance and proximity among the subjects, provide a cognitive leap that cannot be characterized as the sum of disciplinary approaches. The cognitive leap or new knowledge that emerges from the shadowy zones or from the areas of tension, in a movement of distancing, coming closer and understanding the differences rather than nulling them, enhances and takes them to a higher level. It is the transformation of insecurity in thinking activity, in a knowledge-building exercise. Thus, it is from this collective construction that we can think of the possibilities of collaborative interdisciplinary actions, being essential to enhance dialogue and openness to new knowledge.

AN INTERDISCIPLINARY DISCUSSION ON THE CONCEPTION OF BODY

We understand that the conception of body can be related to personal views, built over a lifetime, the interpretation made of an event which affects individuals morally, either temporarily or permanently, as Breton (2009) mentions.

Since we have considered the school place and interdisciplinarity as cognitive leaps, we have chosen to dialog with the conceptions of body provided by physical education, chemistry and science teachers. It is important to highlight that we have understood from the teachers' utterances not only knowledge related to their area of formation, but also, above all, knowledge built upon the relationship with other teachers. As Tardif (2014) mentions, teachers' knowledge is built along their professional lives and is part of their daily routine. Bondía (2002) points out that:

This is the knowledge from the experience: what is acquired in the way someone responds to what happens to them throughout their lives and how we give meanings to what happens to us. In the knowledge from the experience it is not about the truth of the things, but about the meanings or lack of meanings of what happens to us. (BONDÍA, 2002, p. 27).

We agree with Bondía that knowledge from the experience enhances the process of formation from the meanings or lack of meanings, and other attributes that make self-reflection possible. The experiences are based on time, human beings, action and context. The fact that we, teachers, work with human beings in a given time, places and activities, leads us also to understand the ongoing process of formation and transformation, since it regards the dynamic involving lives and stories.

The data collected allowed us to realize the presence of ready-made definitions, such as: "body can be understood as a limited portion of matter" (BARROS and PAULINO, 2011) or "body is a limited portion of matter" (GEWANDSZNAJDER, 2010). These definitions, as brought up in the citations, are common in junior high and high school science book. Teachers, when asked about the conception of body, responded:

Body is a portion of matter, which we have been studying. (FT1)

The authors say that the body is a limited portion of matter. I would rather say that it is any measurable part (whether in mass or volume...) of different matter. (QT1)

For me, it is a limited portion of matter. (SCT4)

The answers of the physics, chemistry and science teachers are those that reaffirm body as "inert thing", as presented in textbooks. These answers lead us into two axes, as highlighted by Breton (2009): the axis of the language (oral, written and disciplinary), expressed in textbooks, on the one hand, and the bodily symbolism, on the other hand. Both are in close relationship to the world, inseparable during interaction, they form two signal systems that compete simultaneously for the transmission of meaning, that is, in the classroom, the disjunction between mind and body. The body is presented as "a portion of matter" as something neutral and passive.

Other responses disagree on this idea, incorporating into them other terms also found in textbooks, as form, volume, feature:

Body is a quantity of matter that has definite form and has certain characteristics. (CT1).

When teachers refer to the body as "any measurable portion" or as "a quantity of matter", they lead us to question, rightly or wrongly, their pedagogical practice, since there is a detachment from the moment of their utterances. It seems to us that the way they express their ideas reveal only decontextualized words, faceless, such as in textbooks. Understanding the

definitions of body is also to comprehend the way each teacher, with their entire body, perceives it. Teacher's body movement, while in class, in relation to some specific content, conveys meanings through the gestures, the face and the look before the others. Breton (2009) adds that there may be misunderstandings, since the communication implies ambiguities. The ambiguity, due to its nature, shifts the terms, presented in a static way on the textbook, and brings up the possibility of dialogue and openness to new comprehension. It is from the collective construction that we can consider the possibility of collaborative interdisciplinary actions.

One of the teachers commented:

Body can encompass various conceptions. Body in science can be human anatomy body, celestial body if you have considered planets (solar system). In chemistry, it is a limited portion of matter, for example, stone, trunk; in physics, the same thing and also one-off body, long body. Then we can address the subject from various angles and aspects. I guess that's it. (CT3).

The sentence "body can encompass various conceptions" brings us to a multiplicity of disciplinary boundaries. However, the teacher does not exceed the area of science, limiting the response to chemistry and physics. According to Pombo (1993), when it comes to interdisciplinarity, it is necessary to promote communication between two or among more areas for the understanding of a phenomenon, aiming at the preparation of a synthesis of a common object. In this sense, it is necessary to reorganize the teaching and learning processes and the collective action of teachers; perhaps, for this reason, the teacher has added that "we can address the subject from various angles and aspects". This last sentence enables us to consider how the teacher responded when asked about the conception of body. Teachers' body reaction, full of emotion, is permanently under the influence of the events, all the time being touched by them.

Another teacher adds that:

Body: a set of systems working together... forming a being (QT2)

The chemistry teacher, although he does not provide the most common answer, he does not deepen the idea and does not explain what would be "the systems" and the "being" he referred to either. We believe that he values the knowledge provided by science as he refers to the body as a set of isolated pieces that integrate a whole, forming a complete being. We can think on the duality of Descartes, which separates mind and body. This conception, which is present in the educational area, generally, ignores the existence of the body as a continuous thread of feelings that change as time goes by and before the situations experienced (BRETON, 2009). While relating to others, in school, either as a teacher, student or any other professional, the feelings that involve continuously the relationship of oneself with the world is symbolized by the moral atmosphere present in relation to the other person, a discontinuous and ambiguous plot due to the complexity of this relationship.

One answer points out:

The word body reminds me of cell body, word of my eighth grade science classes. (SCT2).

He says that this is his word: "word of my eighth grade science classes". Such identification is part of his memories and knowledge from the experience (TARDIF, 2014). We can also think in the reproduction of certain values, in the perpetuation of the mind-body fragmentation and hegemonic knowledge part of certain areas of knowledge. It seems that the cognitive leap of interdisciplinarity, in relation to the body, is yet to be apprehended, in the action of the teacher. We cannot disregard the body as emotion, when he brings up "the eighth grade science classes", the teacher remembers, we believe, with emotion, of a past event "in eighth grade", which is still present in the relationship he maintains with the world nowadays. As Breton (2009) asserts, the emotion is a temporary moment, some feelings are sometimes rooted in time and are accessible in the discourse.

The teacher below defines body from the idea of an object:

We call BODY an object that describes the behavior of a given physical phenomenon. It is quite common to use the term body to give meaning to the object we know its dimensions. The term PARTICLE gives meaning to something that does not distinguish its dimensions. Personally, I use the term OBJECT in my classes instead of body. (PT2).

The teacher says that he uses the word object for it describes the behavior of a physical phenomenon. We understand that his answer belongs to a specific discursive genre, the one used in physics classes. This genre brings together a set of statements, that is, for each sphere of activity, the specificity involved leads to the use of a typical set of utterances. This specific genre indicates, based on the analysis of our research, an explicit language isolation characteristic of a knowledge area in debate, as we highlight aligned with Pombo (1993). We think it is fundamental to mention here the importance of thinking about the language as an important aspect of the teaching process, since understanding communication is also to comprehend how the subject is presented with their entire body, maybe this is the reason why the physics teacher says he prefers to use the term "object". The aforementioned term is away from the "body" while feeling, emotion present within the school, which reveals the role performed in the interaction.

FINAL CONSIDERATIONS

We believe that the body treated as "a thing" and "an object" at schools invalidates the discussions about the different ways to experience the body, to understand its experiences, desires, feelings and the ways of learning or building knowledge. The manifestations of the body are constructed within social models.

We have realized that the conception of body is connected to personal views, built over a lifetime. As Tardif (2014) mentions, teachers' knowledge is built along their professional life is part of their daily lives. The cultural dimension develops an immense field of possibilities that the body encompasses, some environments at school and in the society in general better understand the expression of feelings of the human body.

Finally, we infer that most of the analyzed teachers' responses consider the conception of body more disciplinary than interdisciplinary, requiring discussing our concepts from our disciplinary areas and expanding our understanding towards an interdisciplinarily perspective. Now, we suggest an example to promote interdisciplinarity: analyzing new answers provided by the teachers in order to understand how these conceptions are related to their formation area, as well as with their teacher identity, seeking different and possible forms to work through an interdisciplinary perspective.

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AN INTERDISCIPLINARY DISCUSSION ON THE BODY

The present study is justified by the growing social and cultural demands of thinking knowledge from an interdisciplinary perspective. Therefore, discussing the conceptions of body in the discourse of the basic school teachers and their possible consequences to teaching is the objective of this discussion. Thus, the research question can be presented below as it follows: what are the teachers' conceptions of body in the basic education? The results show that the conception of body is connected to personal views, built over a lifetime. As Tardif (2014) explains, teachers' knowledge is built along their professional life and is part of their everyday life. The cultural dimension develops an immense field of possibilities that the body encompasses, some environments at school and in the society in general better understand the expression of feelings of the human body. Finally, based on the analyses carried out, we conclude that the teachers treat the conception of body more disciplinarily than interdisciplinarily, requiring discussing our concepts from our disciplinary areas and expanding our understanding towards an interdisciplinary perspective.

Keywords: Body. Feelings. Interdisciplinarity.

UNE DISCUSSION INTERDISCIPLINAIRE SUR LE CORPS

La présente étude est justifiée par les exigences sociales et culturelles croissantes de la réflexion sur les connaissances dans une perspective interdisciplinaire. Ainsi, problématiser la conception du corps dans le discours des enseignants de l'école fondamentale et ses conséquences possibles sur l'enseignement est l'objectif de la présente discussion. De cette manière, la question de la recherche peut être présentée comme suit: quelle est la conception corporelle des enseignants de l'éducation de base? Les résultats montrent que la conception du corps est liée à des visions personnelles, construites au cours d'une vie. Comme l'enseigne Tardif (2014), le savoir des enseignants se construit tout au long de la vie professionnelle de l'enseignant et fait partie de la vie quotidienne. La dimension culturelle développe un champ immense de possibilités que le corps renferme, certains espaces de l'école et de la société en général mieux accommoder l'expression des sentiments du corps humain. Enfin, sur la base de l'analyse, nous concluons que les enseignants traitent le concept du corps de façon plus disciplinaire qu'interdisciplinaire, étant nécessaire pour problématiser de plus en plus nos conceptions de notre formation et élargir notre regard en allant vers l'interdisciplinarité.

Mots-clés: Corps. Sentiments. Interdisciplinaridade

UNADISCUSIÓN INTERDISCIPLINAR DE LO QUE ES CUERPO

El presente estudio se justifica por las crecientes demandas sociales y culturales de pensar el conocimiento desde una perspectiva interdisciplinaria. Así, problematizar la concepción de cuerpo en el discurso de los maestros de la escuela básica y sus posibles consecuencias para la enseñanza es el objetivo de la presente discusión. De esta manera, la cuestión de investigación puede ser así presentada: ¿Cuáles son las concepciones de los maestros de Educación Básica sobre de que es cuerpo? Los resultados muestran que las concepciones de cuerpo es ligada a visiones personales, construidas a lo largo de la vida. Como enseña Tardif (2014), los saberes docentes, van siendo construidos a lo largo de la vida profesional de los maestros y forman parte de su cotidiano. La dimensión cultural desarrolla un inmenso campo de posibilidades que el cuerpo encierra, algunos espacios de la escuela y de la sociedad en general acogen mejor la expresión de sentimientos del cuerpo humano. Por último, con base en los análisis, concluimos que los profesores tratan el concepto de cuerpo de forma más disciplinaria que interdisciplinaria, siendo necesario problematizar cada vez más nuestras concepciones a partir de nuestra formación y ampliar nuestra mirada caminando hacia la interdisciplinariedad.

Palabras clave: Cuerpo. Sentimientos Interdisciplinariedad.

UMA DISCUSSÃO INTERDISCIPLINAR SOBRE O CORPO

O presente estudo se justifica pelas crescentes demandas sociais e culturais de pensar o conhecimento a partir de uma perspectiva interdisciplinar. Assim problematizar a concepção de corpo no discurso dos professores da escola básica e suas possíveis consequências para o ensino é o objetivo da presente discussão. Dessa maneira, a questão de pesquisa pode ser assim apresentada: qual a concepção de corpo dos professores da educação básica? Os resultados mostram que a concepção de corpo está ligada a visões pessoais, construídas ao longo da vida. Como ensina Tardif (2014), os saberes docentes, vão sendo construídos ao longo da vida profissional do professor e fazem parte do seu cotidiano. A dimensão cultural desenvolve um imenso campo de possibilidades que o corpo encerra, alguns espaços da escola e da sociedade em geral acolhem melhor a expressão de sentimentos do corpo humano. Por fim com base nas análises, concluimos que os professores tratam o conceito de corpo de forma mais disciplinar do que interdisciplinar, sendo necessário problematizar cada vez mais nossas concepções a partir de nossa formação e ampliar nosso olhar caminhando para a interdisciplinaridade.

Palavras-Chave: Corpo. Sentimentos, Interdisciplinaridade