

THE BLIND STUDENT AND HIS BODY FEELINGS: WAYS OF BEING AND PERCEIVING THE SCHOOL THROUGH TACTILE MAPS DURING PHYSICAL EDUCATION CLASSES

R. A. W. R. MIRANDA* and H. PINEL
Universidade Federal do Espírito Santo
ruyantonio.50@gmail.com*

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ABSTRACT

Historically, physical education in Brazil has been coming through a long process for achieving its position in regular schools. Conquering this place is owed to a large set of debates about the most varied pedagogical concepts. This study aims at analyzing the body feelings of a blind student and phenomenologically describing this student's perceptions of school spaces when influenced by the use of tactile maps. The study adopted a qualitative approach from a theoretical-methodological perspective of the case study with phenomenological-

existential inspiration. Based on the dialogues in this study, the authors understood that tactile maps, mediated by the student's body feelings, represented significant importance to boost memorization of school spaces. This allowed more reliable guidance and safer mobility to that blind student and his own challenges of overcoming physical and attitudinal barriers when he needed to move around daily at school and during physical education classes.

KEYWORDS: Phenomenology, Tactile Maps, Physical Education, Blindness, Inclusion.

O ESTUDANTE CEGO E SUAS SENSações CORPORAIS: MODOS DE SER E DE PERCEBER A ESCOLA, POR MAPAS TÁTEIS, EM AULAS DE EDUCAÇÃO FÍSICA

RESUMO

Historicamente, a Educação Física no Brasil vem, por um longo processo, constituindo seu lugar na escola regular. A conquista desse espaço deve-se a um denso conjunto de debates sobre as mais diversas concepções de práticas pedagógicas. Esta pesquisa teve por objeto de análise as sensações corporais de um estudante cego, e por objetivo descrever fenomenologicamente as percepções do estudante em relação aos espaços escolares, quando influenciado pela utilização de mapas táteis. Adotou uma abordagem de natureza qualitativa, sob uma perspectiva teórico-metodológica do estudo de caso com inspiração

fenomenológico-existencial. No bojo das interlocuções vivenciadas neste trabalho, os autores foram direcionados para a compreensão de que os mapas táteis, mediados pelas sensações corporais do estudante, representaram significativa importância para potencializar a memorização dos ambientes escolares, possibilitando uma orientação mais fidedigna e uma mobilidade mais segura para aquele estudante cego, diante de seus próprios desafios em transpor barreiras físicas e atitudinais ao se deslocar cotidianamente na escola e durante as aulas de Educação Física.

PALAVRAS-CHAVE: Fenomenologia, Mapas Táteis, Educação Física, Cegueira, Inclusão.

1 INTRODUCTION

Inclusion policies, respect to differences and professional performance are contemporary themes which have been reflected upon in several areas. Among the discussions, a lot has been said about issues related to initial and continuing professional training and about its respective professionalism in work environment and this is amplified in the educational field. In this path, in the educational area, discussions take place about teachers' professionalism, in which researchers and scholars have been producing studies and papers with themes connected to teachers' training and performance in their respective expertise and field of knowledge (PINEL, 2016).

Such discussions are mainly about teachers' performance in their relationship with students enrolled in all levels and modalities of regular education, from children's education to university and postgraduate degrees.

In elementary school, between first and ninth year, which is considered as a place of significant importance to people's basic education, there is an increased need to provide possibilities that might, somehow, enable greater and better conditions of appropriation of knowledge to all students.

In Brazil, educational policies suggest that students considers as the target audience for special education¹ must be enrolled preferably in regular public schools.

Meirieu (2005) reminds us that students, when at school, do not undress their way of being in their social and familiar environment, for they carry with them their living habits, their feelings, fears and their courage, their capabilities and possible limitations in their own human ways.

Thus, the student, in general, does not fit a pre-defined model, but takes to school their behavioral attitudes observed in other social environments.

Therefore, the school must be understood as a space for everyone and that cannot be confused with a center closed to a given modality where action is formed, but as an open space of inclusion rights accessible by all students, which must not therefore be at the mercy of a unique social force or individual thinking (MEIRIEU, 2005).

Meirieu (2005) states that school and teachers in their classrooms cannot deal with students as if they were a homogeneous and uniform group. It has to be taken into consideration that social interaction is performed by individuals, and being so, they are different from one another. Therefore, this heterogeneity must be recognized and respected with the due social importance it deserves.

In this direction, the teachers need to be aware that they are not the only knowledge holders, but that they are the ones who can mediate this knowledge with the student; a unique student in their ways of being before the others and the world; an individual of rights. Not and idealized and formatted student, but a real individual, a real student. This aspect concerns teachers in general, and more specifically, physical education teachers, who have been considered

¹Decree no. 7.611 issued on November 17, 2011, signed by the Brazilian President of the Republic, which regulates and amends special education, states on § 1 that: "The target of Special Education are people with disabilities, pervasive developmental disorders and pervasive developmental disorders and high-potential or giftedness" (Brazil, accessed on September 4, 2015).

professionals that, many times, think they own some know-how and do not always promote mediations (SOBROZA, 2014). In this sense, Physical Education has been daily building its place in the school here (place) and now (time). The establishment of this Physical Education here and now results from a long historical process, which has been permeated by a diversity of concepts and values applied to pedagogical practices.

According to Falkenbach *et al.*, (2007), Physical Education, throughout a historical process, has been socially understood as a subject that marginalized those students who were distant from the standards, perhaps fitting in as a pedagogical area of minor potential for the inclusion of students considered as the target audience of special education in their classes. The authors complete their reflection by pointing out the presence of a complexity in the relationships between teachers and the school, considering that pedagogical practices continuously search for knowledge universalization and uniformization, which may create attitudinal barriers for the recognition of individual's diversity in schools.

Despite this reality, physical education teachers, in their set of pedagogical movements, are responsible for maximizing practices that ensure access and continuity of all students in regular schools (FALKENBACH *et al.*, 2007).

In the municipality of Vitória (ES), the physical Education teacher receives the nomenclature of Basic Education teacher III, or simply *BET III – Physical Education*. In accordance with Municipal law number 6.754, issued in 2006, it is the physical education teacher's responsibility to plan, teach, follow up and evaluate the pedagogical activities developed with students, in partnership with the other professionals from the school and the school community when necessary, in compliance with the Political Pedagogical Project. The duties described might be performed in regular education, special education or young and adult education (PREFEITURA DE VITÓRIA, 2006).

In the education field, the class lead teacher, especially in elementary Physical Education area, is the professional who works in all classes and levels of the school, having groups from the school first to ninth grades in their classes. Thus, if a school works in its regular flow with these groups, the physical Education professional is responsible for teaching students at ages from six to fourteen years old.

Concerning the topic of the physical education teacher in Municipal public schools in the city of Serra (ES), Sobroza (2014, p.212) says he feels at the threshold between "the insane and the sound", where whatever is experienced by the teacher might be maximized is their own ways of being in the world.

In this context, the teacher, in this specific case the Physical Education lead teacher, has the responsibility of assisting, despite possible constraints, all children, young people, adults and elders, who are regularly enrolled in that teaching unit – here we point out a teenage student in particular. This study aims at the body feelings of a blind student and the influence of tactile maps on this student's sensations and perceptions of the school and its spaces.

In this space (here) and time (now in 2015), the student demands to be considered a person under the law, not a formatted student, but a real, concrete human being in the world.

This study focused on the body sensations of a blind student, a teenager, sensations that permeate his living body, by the use of tactile maps. The research described phenomenologically full of movements, opening up to the most diverse possibilities of being in the world, which

performs/moves/ acts in relation to the objects (of this same world); a body surrendered to the space opened by its own moving.

2 BIBLIOGRAPHIC REVIEW

In a study about the making of maps and other cartographic products, Loch (2008) points out that tactile cartography is a specific field of cartography, in which the main objective is to make cartographical maps to meet the needs of spatial guidance for blind or poorly sighted individuals in the most different spaces. The author states that the tactile maps and graphics might also be used as a pedagogical instrument, optimizing autonomy achievement of poorly sighted and blind individuals, making access to the most diverse social spaces possible. To Pinel (2016, p. 9), tactile cartography is reflected on the “[...] productions of *subjective cartography*, whatever it is, it is necessary to take into consideration the process experienced by the individual before using this tool. The phenomenological description of the inner construction in the objective world seems to be an essential experience for evaluating that resource.

Using tactile maps for the teaching of geography, Salvador (2007) indicates the need to reflect upon the inclusive pedagogical practices that might provide possibilities for greater understanding, motivation and appropriation of new knowledge to all students.

In this study, we sought to adopt the assumptions of French philosopher Maurice Merleau-Ponty and his concepts on corporeality, to subsidize our thoughts and promote scientific support for the discussion about the data gathered with the use of tactile maps on ways of being, and perceiving of a blind student in physical education classes in the school space.

In this line of thought, it was possible to carry out a dialog between the blind student’s experience in the use of tactile maps in physical Education classes and the theoretical perspective of Merleau Ponty’s phenomenology.

According to Merleau-Ponty (2011), when the human beings face something that stands out before their consciousness, first they notice this object in complete harmony with its form, from their perceptive consciousness. This thought makes us reflect on how a congenital blind person’s perception would take place, in face of his meeting in a physical education class in a regular school where his colleagues and teachers are able see. The perception is basic for human attitudes, from where an incarnated existence emerges.

Merleau-Ponty (2011) maintains that when people notice an object, this enters in their consciousness and becomes a phenomenon. In order to notice it, the human beings perceive something about it, they imagine it in its wholeness and they will be able to describe what it really is.

In this sense, we understand that the blind student, in his own ways of being and noticing the world through his feelings, better notices the physical space of the school when he is able to feel its spatial configuration. Thus, we believe that the use of tactile maps might significantly contribute with the blind student’s perception when he faces these school spaces.

According to Nóbrega (2010; p. 54), “[...] the body’s experience helps us to understand the senses artificially built through concepts, through language, through affections and through culture, in general”.

This way, it is extremely important to be careful when making the maps, so as to keep reliability with the real space of the reproduced environment, to optimize the student's feelings and senses in the use of tactile maps.

In a study that aimed at identifying the types of material that contained higher perception to blind people when using tactile maps, Jehoel *et al.* (2005) concluded that rougher materials used to make the tactile maps came to be the blind people's favorite ones, over other materials.

Jehoel *et al.* (2006) described that the production of tactile maps deserves special attention. Quality and variety of the materials used must undergo careful evaluation so that the maps accomplish their goals.

3 METHODOLOGY

3.1 The investigation

This was a qualitative study from a methodological and theoretical perspective of the case study existentially and phenomenologically inspired on the ways of being and noticing of a blind student who used tactile maps in physical education classes, in the environment of a public regular school in the Municipality of Vitoria (ES), Brazil.

Phenomenology has been used to investigate phenomena related to ways of being of humans from different perspectives and aspects in their relational lives, which demands existential involvement from the researcher.

According to Gil (2010), the phenomenological study has questioning as its starting point, that is, a question. However, it distinguishes from other methods, for the problem is not determined yet by the researcher, representing more a concern regarding a given phenomenon, about which the researcher believes to know some aspects, requiring, according to Forghieri (2001), existential involvement and reflexive distance from the phenomenon studied.

In this direction, this concern motivates a tension that drove the authors of this paper to look for the phenomenon essence, always existentialized, which simultaneously causes strangeness and is familiar and is established by the real experience of everyday life. However, this familiarity does not represent the knowledge of that phenomenon. Thus, the initial stage of the phenomenological research is called pre-reflexive, for the researcher, the study and its phenomenon is not completely defined yet (GIL, 2010).

3.2 Individual who collaborated with the study

His fictitious name is Mateus (Mathew). It was chosen by the student's own mother, with his approval. The mother is a very religious person. She told us that in the biblical scriptures, this name means "winner", which in Portuguese might bring us a meaning of "winning pain". But which pain?

Mateus is a congenital blind boy who, by age seven, was enrolled in a public regular school in the city of Vitoria, ES, Brazil. He studied at the same school up to when he was 14 years old, when he, in the ninth grade, accepted to take part in this study.

He used to live with his mother and a sister in a popular neighborhood in the city of Vitoria. The house where he lived was on the second floor of a small two-story-building, accessible only through steep and narrow stair. The house was built in a property that belonged to his mother's family, where there were three other houses.

He used to attend services at a catholic church in the same neighborhood he used to live, attending musical classes and youth group meetings.

At the time the data in this study was gathered, (and it was produced), Mateus was regularly enrolled in the ninth year of Elementary School.

3.3 Tools and techniques for data collection

As tools for additional data collection we used a field journal. This material was selected for being considered appropriate for obtaining informational data as we can read in Duarte (2002, p. 146), complementing the description of body feelings in face of a pedagogical knowledge. This type of tool is ideal for producing descriptions – we describe what was seen, the sensed, the shared. Other resources were attached to facilitate the description in the field journal. Therefore, the audio, the non-structured interviews, the videos and the very tactile maps produced are inseparable parts of the journal.

In order for descriptions to happen, we usually resort to observation techniques (free, in this case), or non-structured interviews, as well as to non-directive interviews, people's personal reports, informal conversations.

3.4 Data collection (and production) in school everyday life: procedural paths

It is important to emphasize that all of our data production, from a data collection or gathering, took place as per Merleu Ponty's (1984-2011) Phenomenology, from which we adopted a hearing posture, characterized by sympathetic understanding. Being there, on the field, subject and object together, existentially involved, we produced data.

In an attempt to appropriate of school spaces and times in Physical Education classes, we organized our data gathering in such a way that it has enabled us to obtain information from the beginning, which has proven to be of significant importance in the analysis and discussions according to our objectives.

The development of our field study took place in the afternoon shift, on a weekly basis of two days a week, Mondays and Thursdays, the teacher taught classes to the group the blind student was enrolled.

We observed 15 Physical Education classes. By the end of each class, we talked to the blind student as well. On Mondays, we followed the teacher's weekly lesson planning. Thus, in those days, we had moments reserved for a closer contact with the physical education lead teacher. These contacts allowed us to reflect more carefully on the facts lived by the blind student in the Physical Education classes, based on the interpretation of the teacher's lesson planning.

By analyzing part of the field journal and of the interviews carried out in this study, we could come to the understanding that the student in his corporeity had limits regarding his spatial

orientation in that ambience, decreasing thus, the possibilities of a more independent and safe mobility in the school spaces and time.

The blind student's experiences focusing on his body feelings were described phenomenologically in the field journal.

In order to describe the results and discussions, answering to the object of this study, we resorted to the blind student's "talks" about his experiences with tactile maps, focusing on his feelings, emotions and wishes (and his thoughts and reasoning) indicators of his body feelings and perceptions. At this point, it is necessary to highlight that it is impossible to perceive the sensation in its purity, and that it reveals itself to be described phenomenologically in a space (an time) in which it is analyzed.

3.5 Number of blind students enrolled in the municipality

For understanding where this study's blind student is phenomenologically placed, it is important to show, here/now the statistical chart from where he comes from. In the years of 2012, 2013, 2014 and 2015, the public school network of the municipality of Vitoria registered a number of blind student enrollment, according to the following table:

Table 1: Number of blind and poorly sighted students enrolled in Vitoria.

Enrollments per year	Enrollments of students with visual disabilities in 2012		Enrollments of students with visual disabilities in 2013		Enrollments of students with visual disabilities in 2014		Enrollments of students with visual disabilities in 2015	
	Partially Sighted	Blind	Partially Sighted	Blind	Partially Sighted	Blind	Partially Sighted	Blind
Childhood education	9	2	12	1	19	1	13	1
Elementary education	70	7	35	6	73	11	98	8

Source: CFAEE/SEME – Vitoria City Government (2015) Research ethical issues

This study is derived from a wider project named "Special Education target students, the teacher and the regular school: ways of being and of interacting in Physical Education classes". This study has been approved by the Ethics and Research Committee of Espírito Santo Federal University under the statement number 1.145.414, CAAE number 35480814.7.0000.5542.

In order to meet the ethics norms for research with human beings, we inform that all volunteer participants in this study have signed the Informed Consent form – ICF.

4 RESULTS AND DISCUSSIONS

4.1 The making of tactile maps for the body that will be a complement

To reveal the blind student's perceptive sensations in school spaces through tactile maps, they were made out of materials available at school, such as non-toxic EVA rubber (Ethyl, vinyl and acetate), non-woven fabrics (NWF), twine wires, cardboard, play dough and polyethylene plastic bottle caps, or PET bottles, Styrofoam sheets, cardboard and brown paper.

These materials, created by humans, are available to the diverse senses of being in the world: "[...] the experience of the body makes us acknowledge an imposition of sense and we learn

to know this junction between essence and existence which in general will be found again in perception and that we will need to describe more completely” (MERLEAU-PONTY, 2011, p. 204). The blind student says: “[...] I like these maps... everything seemed to be clearer to me and I could feel where each thing was. It was easier to memorize my path to the classroom and other places. I just had to follow the map”.

The material for making the map was selected, and, later, built by the authors. The parts were placed on a handmade drawing of a floor plan of school environment. This drawing was amplified from its original size and afterwards it was placed on the surface of a cardboard and Styrofoam sheets. The objective was to use the tactile maps tool at the service of the body of the others and one’s body, like a crutch, as Merleau-Ponty (2011, p. 209) points out when referring to blind people:

[...] when the walking cane becomes a familiar tool, the world of tactile objects recedes and it no longer starts in the hand’s skin, but at the end of the cane. We are compelled to say that through the feeling of the cane’s pressure against the hand, the blind person builds the cane and its different positions, after they, in turn, mediate another object, the external object.

The drawing represented the school environment spaces, as classrooms, restrooms, cafeteria, halls, stairs, doors, windows, among other details. The maps also represented furniture, such as chairs, desks and cabinets, in addition to water fountains and trashcans that were distributed along the school space. The spaces represented in the tactile maps (Figures 1 and 2) were named in braille. Our phenomenological idea was to provide possibilities so that the bodies existentially got involved with the same thing lived. The body, in this vital process, the sensations and perceptions become something unique in the comprehensive context of the student’s corporeity.

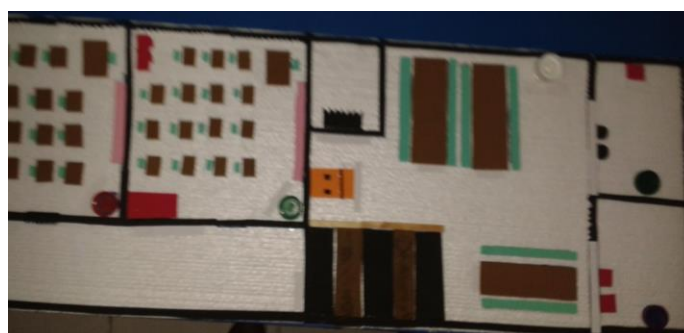


Figure 1: Handmade Tactile map on a Styrofoam sheet

Merleau-Ponty (2011; p. 204) affirms that –and we agree with him– the experienced fact is what gathers “[...]my hands tactile sensations” [...] it is a certain gesture style of my hands, which implies a certain movement style from my fingers and contributes, on the other hand, to a certain configuration from my body. It is not to the physical object that the body might be compared with, but to work of art”.



Figure 1: Handmade Tactile map on a brown paper

4.2 The blind student and the body feelings

When observing the school environment phenomenon, we might consider that the results show a blind student being able to memorize the school spaces better, after using the tactile maps.

In a conversation with the student about his own perceptions and sensations on using the maps he told us: “[...] the maps helped me get to know better the places inside the school”. “[...] it is only bad when I memorize some routes and the furniture position is changed, then I get confused and have no reference.

At this point, the student’s talk, described on the field journal, points out the effects caused by attitudinal barriers which do not consider these actions as inclusion facilitators. The feeling of being confused and lost, leads us to comprehensively suggest a body based on insecurity sensations, amplifying such body perceptions.

The student’s report also draws attention for the care to be taken when using tactile maps in order for allowing an amplified perception, assuring his inclusion, when in movement in the school. This way, it is necessary to keep all school furniture in the same place they were when the tactile maps were made. This caution is necessary as the furniture location in the school space serves as a reference for the student’s orientation in his ambience perceptions and sensations.

Another aspect that is also related to the student’s speech and that is important to highlight concerns the conceptions existing in the school on Special Inclusive Education. Many times, the juxtaposition of those two concepts makes the school look at some students, believing that they have some kind of disability, when, in fact, they require pedagogical support without being necessarily a target audience of Special Education, for instance, students who are found in discrepancy between age and school grade. With the blind pupil, the special support need comes up when he is understood as an individual who requires Special and Inclusive Education, with right to access and permanence in the average regular school. Another aspect that is worth returning to the student’s report refers to the blind student’s own and perceived body, who points out: “[...] being able to walk more aware around the school. Knowing where I am going, being sure of something is located in some places I have to go. This is such a good feeling, to feel that I am a little safer and without the risk of getting lost”.

This way, it is fundamentally important to understand that Special Education, in compliance with the Brazilian Educational legislation, is considered as a special education modality intended to subsidize the education of students with disabilities, with pervasive developmental disorder, highly developed or gifted. Meanwhile, school inclusion reports to the guarantee of access conditions to school, permanence and learning to all students, without any reserve.

In this complexity that forms the whole, educational policies also weaken when, by transforming the human diversity/difference present at school in situations of disability, they regard Special Education as a unique policy to be put into operation. However, it is necessary an articulation of several policies to subsidize teachers' continuous training as well as to the supports and possibilities of organization of pedagogical work with Special Education target students.

Finally, we highlight the vitality of a micro intervention such as this body sensations production in the student's perception: "[...] at eating time, our eating time, I have the expert teacher's help, who accompanies me up to the cafeteria. With the maps and what I had learned from them, I became more independent and I feel better".

The map as it was applied, within a phenomenological posture that considers the other being in the world who needs to be sympathetically listened to in the teaching-learning process, could provoke the other's body, making it freer (loose). This is a perception of freedom that evokes new orientations.

In this sense, concerning the body sensations and its perceptions, we agree with Merleau-Ponty (2011, p. 288) when he states that the sensation and the sensitive maintain a continuous interdependence relationship with one another. In this path, the blind student's perception of the school space through the tactile maps has developed as a body appendix, an extension of his whole body. "[...] Now I can say that I know the places where I walk around better. Classrooms and other spaces, and I know where they are now. I have made a mental map of where they are located. I easily learned the gym location, the restroom and other places".

A teaching-learning thereby phenomenological, which focuses on the body sensations, eventually becomes an event that might be multidisciplinary, for the body is all the individual has, and the blind student himself give the clues, for instance, by attending the Arts classes, implying its teaching and learning. The body as work of art is full of feelings and perceptions, which, when autonomous and free, is led to the desire to learn. Art as something being made, in a constant process which surrenders to the existential lived at school, that focus on school contents and do not disregard the non-school ones, the intertwined ways of being in the world.

5 CONCLUSIONS

Considering the limitations in this kind of study, we might go beyond and suggest ideas that using of tactile maps in Physical Educations classes has significantly contributed to the blind student's orientations and mobility in his corporeity.

The experiences lived by the student with his body feelings, using tactile maps as an object to be kept, have enabled a figurative perception of school spaces, in such a way to promote signification of what had been perceived.

In all complex and inseparable sensations and perceptions network while moving around the school, the blind student broadened his critical awareness even about the school and the material produced, suggesting his dynamic, such as when he reports the changes in the furniture location.

In this path, the perceptions of the blind student such as about the school, the halls, restrooms and other school environments, revealed a relational situation of his corporeity in space and time, perceiving the world in several ways and meanings – feeling oriented, connected, happy, free and more independent.

Meanings and forms are related to the student's body in his movements-sensations and perceptions. In turn, they are also part of the Physical Education subject, in which the body, in its corporeity, keeps a straight connection with the whole world and the things in the world. The blind student with the others is a being in the world. The free body is a body, for instance, surrendered to and education engaged as body, a body rich in possibilities of pleasant repetitions and new body sensations, before the perceptions of “[...] ways of being along with the other in the world” (PINEL, 2016, p. 6).

From this reflection, we understand the need to release new investigative themes for the school everyday life, in order to perceive the different (and similar) existing ways of living in the student and the plural learning needs, inside a perspective based on a *Sensitive Phenomenology*; as it is possible to read in Merleau-Ponty (1984). In this path, it is really important that, with these sensitivities, the teacher is moved by and creates a multiplicity of methodological strategies, which are applied to all students, Special Education target students or not, in a sensitive perception to the several actions that are required so that all might have access to the necessary resources for supporting their learning.

Thus, it is necessary the adoption of pedagogical interventions that might maximize learning, as long as it is clear for the educator what is common for the group and what has to be considered specific so that a blind student with sensitive perception might enter the game of lived and sensed process of “teaching-learning”, which are intertwined aspects.

In this setting, the blind student, in his corporeity full of sensations and perceptions, moves and acts, moving around for ways and directions – other senses—and being established through interdependent social and intrapersonal interactions to be able to transform his own inseparably “objective subjective” reality in self-acknowledgment, as a social-historic being who makes culture, history and knowledge –a being that is constantly affected in his corporeity in the world and with the other.

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