

Dialogue and Environmental Education: Conflicts Between Marine Conservation and Fishing¹

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This research sought to analyse how the environmental educator process developed by a non-governmental organisation with maritime artisanal fishermen from the coast of São Paulo (Brazil) helped to foster dialogue to face the conflict of marine conservation *versus* fisheries. The data were collected through the analysis of documents and semi-structured interviews composed of a set of indicator questions divided into three categories: external aspects, internal aspects, and dialogical action and answers analysed using a synthesis of the ideas on dialogue of Martin Buber, David Bohm, William Isaacs and Paulo Freire. The results show the incipience of dialogue in the relationship between the actors. The external dialogical aspects were limited to the weekly frequency of the conversations and some formations of the participants in certain meetings. The internal aspects revealed the establishment of two types of relations: one anti-dialogical and another that we called incipient dialogical. In relation to the dialogical action, it was possible to verify the beginning of a process according to the principles of the culture circles, which did not have continuity. Regarding the pedagogical strategies adopted in the different environmental education meetings, it is possible to affirm that the one used in the participatory diagnoses was the only one that potentiates the emergence of dialogue. Finally, it was possible to find dialogical potentialities, which should be stimulated together with the creation of new ones, in order to allow the effective transition to a new model of fishing and society.

Keywords: Dialogue, Environmental education, Conflict, Marine conservation, Artisanal fishers, Non-governmental organisation

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1 This article is the fruit of the first author's master's thesis, under the direction of the second author, together with the Post-graduate Program in Environmental Science of the University of São Paulo.

Dialogue and Environmental Education

Dialogue comprises both an important principle and objective of environmental education (EE), as it advocates for the important international document entitled 'Treaty on Environmental Education for Sustainable Societies and Global Responsibility' (Fórum Global das ONGs [NGO Global Forum] 1992) and some Brazilian public policies, such as the National Environmental Education Programme and the National Environmental Educators Training Programme (Órgão Gestor da PNEA [PNEA Managing Body] 2006; 2014).

In spite of the recognised importance of dialogue in the field of EE, there is still a long road ahead to strengthen it in the educational processes developed. This is because EE was born as a Western invention with the aim of contributing to the mitigation of the various environmental problems that Western civilisation itself helped to create, thanks to the anti-dialogical presuppositions it adopted: cultural imposition, domination of the other, individualism, belief in progress, and others (Andrade and Sorrentino 2014a; 2014b).

Thus, many of these values and beliefs have been cultivated all along the historical trajectory of environmental education, since they were created within this anti-dialogical culture. Therefore, even though full of good intentions, quite often people may be acting, unconsciously, in a colonising manner, believing that they are contributing to the transformation of reality, when in fact they are reinforcing the status quo (Andrade and Sorrentino 2014a; 2014b).

Consequently, an important challenge to be faced by those who work with the EE process is the elaboration and implementation of dialogical pedagogy (Andrade and Sorrentino 2014a), which stimulates the deconstruction of dominating colonising values, as much in the educators as in the pupils.

For this reason, this research aims to contribute to a deepening of theoretical and methodological knowledge of dialogue in environmental education processes,

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starting with the following question: do research and EE activities developed by an NGO with artisanal fishers on the São Paulo state coast promote dialogue in search of the transition to responsible fishing and the improvement of the fishers' existing conditions?

Dialogue Theory

The theoretical framework used in this research² is based on the ideas of Martin Buber, David Bohm, William Isaacs, and Paulo Freire. We begin with the ideas of Buber (2014) on the two forms of existence: the monologic, characterised by being closed in oneself, seeing the other as an object, and the dialogic, characterised by reciprocity and communion among those involved, giving form to the word pair I-THOU (Buber 1979).

As a result of this comprehension, Bohm, Isaacs, and Freire formulate methodological paths to stimulate the dialogical existence. Bohm (1980; 2005) and Isaacs (1993; 1999) believe that such an existence materialises with the overcoming of fragmented thought, recognising the implicated order and suggesting, for this, the formation of groups of dialogue that adopt the suspension of presuppositions such as methodological procedure.

Freire (1981; 1983), in turn, believes that the dialogical existence becomes present when there is no oppression of individual liberty, suggesting the formation of culture circles, which have codification and decodification as a methodological procedure. Both ways aim to promote the individual and collective uncovering of the historical-cultural aspects, allowing those involved to understand the other and the contradictions in which they reside.

The aim here is to achieve a synthesis of the ideas present in Bohm's (2005) and Isaacs' (1999) groups of dialogue and Freire's (1981) culture circles because of the belief that such an accomplishment could potentialise the experience of dialogical existences. To do this, three categories of analysis, which possess indicator questions, were elaborated based on the elements of the suggested ways of the aforementioned authors.

The first category, entitled *External Aspects*, refers to the structure of the meeting: the number of people, their arrangement, the frequency of the meetings and the acoustics of the location. The second, *Internal Aspects*, is connected to the people's attitudes: the deliberation through dialogue, the listening, the facing of conflicts, the suspension of presuppositions, the fondness, the faith, the trust, the humility,

2 The text presented in this item, with small adaptations, is part of an article submitted to the periodical *Revista Pesquisa em Educação Ambiental* on June 2, 2018, still in the analysis phase up to the finalization of the present article.

the hope, the revealing of historical-cultural aspects, and critical thinking. The final category, *Dialogical Action*, refers to the culture circle aspects, such as openness so that all those interested can accomplish the process of thematic investigation, the solidification of the thematic investigation circles and the culture circles. The three categories with their respective indicator questions are shown in Figure 1.

Figure 1 – Categories and indicator questions (part I)

CATEGORIES	INDICATOR QUESTIONS
External Aspects	What was the frequency of the meetings?
	What was the number of people involved in the meetings?
	What was the arrangement of the people in the meeting (in circle, in rows, etc.)?
	Did the locations of the meetings have good acoustics and make it so that the actors were focused on the meeting?
Internal Aspects	Was there deliberation through dialogue?
	Could all the participants express themselves, respecting and listening, in turn, to the others?
	Was the emergence of the polarisation permitted by means of the conflicts?
	Was there exposure of presuppositions on the part of the both sets of actors, looking at them in suspended form? If not, did each set of actors at least recognise the presuppositions of the other group?
	Are there any indications that the experienced process permitted the unveiling of cultural aspects?
	Are there any indicators of the presence of love, humility, faith, trust, hope and critical thought in the experienced process?

Figure 1 – Categories and indicator questions (part II)

Dialogical Action	Was the project presented to the community with the proposal of inviting interested parties to perform the thematic investigation?
	Are there indications that there was a thematic investigation through the codification and decodification together with the fishers?
	Were seminars administered to re-admire the ad-mirations?
	Were thematic investigation circles made with the fishers? If yes, did they unfold within the circles of culture?
	If the complete process did not occur, was the reduced perspective proposed by Freire at least realised?
	What was the joint decision-making among the actors who engaged in organised, collaborative work and who welcomed differences, beginning with the unveiling of the reality through generating themes?

Source: Categories and indicator questions as exposed in the first author’s thesis, defended in 2018. The construction of the figure came from the ideas of Bohm (2005), Isaacs (1993; 1999), Freire (1981; 1983) and Andrade (2013).

Methodology

To attend to the proposed objectives for this research, a qualitative approach was adopted since this permits comprehension of the complexity of the determined study question (Creswell 2014) seeking to explain the social relations starting from the different values and beliefs that permeate everyday life (Minayo 2002).

The vision of Becker (1994) on the importance and necessity of improvisation in qualitative research complements this conception. It allows the researchers to adapt the chosen methodological ways without strapping them into ‘straitjackets.’ This idea is defended by the author with the justification that the methods are created in determined historical contexts and because of this should have a flexible openness to new contexts that appear without, however, letting go of the scientific rigour necessary to describe the chosen methodological steps.

Thus, we adopted as epistemological inspiration the case study, that is, we adopted its methodological principles without binding ourselves to them like a ‘straitjacket.’ In such an approach, the researchers seek to describe a case in depth, considering several sources of data (Creswell 2014). We next describe the case analysed in this research:

the process of EE developed by an NGO with artisanal fishers to face the conflict between marine conservation and fishing (Instituto Biopesca [Biopesca Institute] 2012; 2013; 2014a; 2014b; 2014c; 2014d; 2014e; 2014f; 2014g; 2014h; 2014i; 2014j; 2015a; 2015b; 2015c; 2015d; 2015e; 2015f; 2015g).

The process of EE developed by the NGO with the artisanal fishers

The Biopesca Institute is an NGO based in the municipality of Praia Grande, São Paulo (Brazil), acting, since 1998, in the marine conservation of endangered animal species, with focus on the Franciscana dolphin (*Pontoporiablainvillei*) and sea turtles (Instituto Biopesca 2012).

In August 2013, the Institute was able to expand its activities territorially with the approval of Projeto Pescador Amigo (Project Friendly Fisherman) in a sponsorship announcement from the company Petrobras. Its actions began to reach the entire central coast of São Paulo, encompassing the municipalities of Peruíbe, Itanhaém, Mongaguá, Praia Grande, São Vicente, Santos, Guarujá, and Bertioga, as well as the south of São Sebastião (northern coast of the state). This project lasted two years and ended, therefore, in August 2015 (Instituto Biopesca 2012). The general aim of the project consisted of:

Monitoring and amplifying knowledge of the impact of dolphins and sea turtles bycatch on the central coast of the state of São Paulo, as well as sensitising and capacitating fishers, coastal communities and tourists with environmental education actions, with focus on responsible fishing practices, conscientious fish consumption and the importance of the preservation of the marine environment. (Instituto Biopesca 2012, 8)

With the above objective in mind, the NGO elaborated a series of activities, with those developed directly with the artisanal fishers being highlighted here: research and EE activities, which were performed by different teams. The research activities consisted of the monitoring of fishing activity by a team from the NGO in order to verify the occurrence of bycatch, pick up the dolphins and turtles that did not survive, and take them to the laboratory for the collection of biological samples. To perform this work, it was necessary to have trust between the fishers and the members of the NGO, since the animals in question are protected by Brazilian environmental legislation (Brasil 1998) and cannot be captured and transported. Nevertheless, the NGO was supported by a Normative Instruction that permitted the transport of the animals for the use of scientific research (Instituto Biopesca 2012).

The EE activities were theoretically based on the critical conception principles of EE, which are characterised by the search for emancipation of the subject by means of dialogue. This permits the ones involved to jointly build knowledge about the reality

in which they live by means of generating themes (Carvalho 2004; Freire 1981). Such activities had the aim of sensitising and capacitating the artisanal fishers from the different municipalities within the project's range about responsible fishing practices, based on the principles of the Code of Conduct for Responsible Fisheries developed by the United Nations for the Food and Agriculture Organisation (FAO) in 1995. A total of 574 fishers was reached over the length of the project (Instituto Biopesca 2012; 2014f; 2014g; 2015a).

The first stage in such activities was characterised by the performance of interviews so that the NGO team could better understand the different fishing communities and identify their interest in participating in future meetings (Instituto Biopesca 2014f). Next, participative diagnoses were performed in the different municipalities in the project's range, by means of a participative methodology called *Biomapa* (Instituto Ecoar para a Cidadania 2008), with the purpose of identifying the fishing situation (Instituto Biopesca 2014f; 2014g).

With the diagnoses completed, the course on sustainable entrepreneurship was given in the same locations. The course was four hours long and divided into two parts. The first was done by the NGO, which presented the fishing situation on different scales (in the world, in Brazil, and in the state of São Paulo), the problem of bycatch and the principles of the FAO's Code of Conduct for Responsible Fisheries. The second part of the course was done by a consultant from the Brazilian Micro and Small Business Support Service (Sebrae) and consisted of a lecture on sustainable entrepreneurship. All of the course's participating fishers received a kit with promotional products from the NGO, such as a cap, a T-shirt, as well as a certificate of participation (Instituto Biopesca 2014g).

After the course on sustainable entrepreneurship, the course on responsible fishing practices was also given. It had the purpose of presenting and discussing a few practices of responsible fishing, performing a joint evaluation about the project (Projeto Pescador Amigo), identifying the positive and negative points and publicising the final EE activity: The Responsible Fishing Practices and Techniques Contest. This course was given by members of the NGO, having a length that varied from thirty minutes to one hour, depending on the specific municipality (Instituto Biopesca 2014g; 2015a).

Finally, the contest of responsible fishing practices happened with the purpose of stimulating the fishers to share their ideas or think up new ones to reduce the problem of dolphins and turtles as bycatch. The three best ideas were rewarded in a grand event and sent to two ministries of the Brazilian government: the Ministry of Fisheries and Aquaculture and the Ministry of the Environment (Instituto Biopesca 2015b; 2015c; 2015d).

Collection stages and data analysis

Four stages of collection and data analysis were performed for the construction of this research. The first consisted of the *bibliographic review* (Marconi and Lakatos 2003) on dialogue in the conception of Martin Buber, David Bohm, William Isaacs and Paulo Freire; on the history of the non-governmental organisations and artisanal fishers to examine the presence or absence of dialogue in their historical trajectories; and on the relationship between environmental education and dialogue. The second stage was the performance of *semi-structured interviews* with fishers and participants of the NGO responsible for the project, utilising a pre-test to examine the pertinence of the questionnaire (Ludke and André 1986; Boni and Quaresma 2005). The choice of the interviewees came from the contacted actors' interest in participation in the research, recognising here the limitation of access to all of those involved in 'Projeto Pescador Amigo.' Contacts for the NGO members and some of the fishers were available since the first author of this article had joined the organisation team during the developed work. Other contacts were obtained with the help of the fishers contacted and some were found during the visit to the municipality, making it possible to converse with diverse opinions about the relationship between the NGO and the fishers.

In total, thirteen field trips and twenty-three interviews took place with the help of the *Audio Recorder* app for cell phones. Six were with members of the NGO and seventeen with fishers from the five municipalities from the project's area – three from Peruíbe, three from Itanhaém, five from Mongaguá, two from Praia Grande and four from São Sebastião. The municipality of Santos was not considered since, in that one, the fishers who participated in the project are from the industrial fisheries and therefore outside the scope defined for this research that focused on artisanal fisheries. São Vicente did not receive the EE activities of the project for motives of team security and in the municipalities of Guarujá and Bertioga, fishers who were inclined to participate in the research were not found.

It is worth highlighting that photos of the different moments of interaction between fishers and NGO members were used at the beginning of the interviews to assist the memory of the interviewees about Projeto Pescador Amigo since it had been terminated over one year earlier.

The interviews were done until the moment in which it was possible to verify the repetition of the collected data (Fontanella et al. 2008), which permitted analyses with a basis in the proposed objectives. The identity of the actors interviewed was preserved by adopting a generic denomination followed by a number (for example Member 4 of the NGO and Fisher 8).

The interviews were transcribed with the help of the software *Express Scribe*

Transcription and a field notebook, which was filled in after each interview with the aspects that drew attention. The transcription was divided into two parts. The first consisted of the transcription of recorded speech, striving to highlight intonations and non-verbal signs (Ludke and André 1986) and making the first notations around the evidence of dialogue or of non-dialogue in the speech. The second consisted of a new listening to the recordings to review the transcriptions and organise the data.

The third stage in data collection was the *documentary research* (Ludke and André 1986; Marconi and Lakatos 2003), which considered the nineteen documents elaborated by the NGO and sent to the sponsor of Projeto Pescador Amigo. The analysis of those documents was first done with a floating reading (Bardin 1979) to identify the NGO's presuppositions, the adopted theoretical and methodological principles of EE, and the aims and goals of the developed activities, as well as the indications of dialogue. The written part of the documents, the tables, and charts, in addition to the photos and respective captions were considered. To finalise the analyses, a deeper reading was performed, seeking to identify indications that had perhaps not been considered during the first reading.

Finally, the last stage, named *data analysis*, which was begun in the preceding stages, had the purpose of identifying indications of dialogue in the relationship between NGO members and fishers. To do this, the three categories of analysis composed of indicator questions (see Figure 1) developed from the ideas of Bohm (2005), Isaacs (1999) and Freire (1981; 1983) were used. The data collected through the two aforementioned techniques were initially analysed separately and then compared to find similarities and contradictions.

Results and Discussion

External aspects

The number of participants, their positioning, the frequency and the location of the meetings between NGO members and the artisanal fishers were analysed in this category to identify and discuss indications of dialogue.

With regard to the number of participants in diverse moments, it was possible to verify that, during the conversations on monitoring bycatch led by the research team, the number of those involved varied from two to six people (Instituto Biopesca 2014f; 2014h; 2015f), which differs from what was suggested by Bohm (2005) for the emergence of dialogue. According to the author, the group ideally has twenty to forty people in order to permit the emergence of a cultural microcosm. In a group of up to six people, there is a tendency to avoid the emergence of conflicts, which hinders dialogue. It was not possible to precisely know the number involved in the diagnostic

activities and courses, since the NGO's registry of documents presents only the quantity of fishers present, leaving out the number of members of the organisation.

Regarding the formation, when analysing the conversations on monitoring, it was possible to notice arrangements in the form of a line, made up of three people, and of a triangle, made up of four people, which obstruct the emergence of dialogue. On the other hand, semicircular and circular shapes made up of five and six people were found (Instituto Biopesca 2014f; 2014h; 2015f), respectively, which potentialise the dialogue (Bohm 2005; Isaacs 1999). At the EE about the participative diagnosis and in the courses on responsible fishing practices, it was possible to verify the predominance of semicircles and circles (Instituto Biopesca 2014f; 2014g; 2015a), although, in the sustainable entrepreneurship courses, the line format predominated (Instituto Biopesca 2014g; 2014j). This characterises a strong obstacle to dialogue in that it creates a hierarchical environment among the participants by concentrating the power on the one who is in front of all the others with the possibility of speech (Freire 1981; 1983).

Concerning the frequency of the meetings among the participants, there are two forms of analysis (Instituto Biopesca 2014f; 2014g; 2014i; 2014j; 2015a; 2015f). The first considers the existence of a weekly consistency of the conversations on monitoring, being placed between the EE meetings, which meets the suggestion of Bohm (2005) about the importance of weekly or fortnightly regularity of meetings for the emergence of dialogue. The second form of analysis considers the moments of the EE meetings separately. In such a scene, the conversations on monitoring maintain the weekly periodicity suggested by Bohm (2005). However, the EE meetings start to present a sporadic character, since each municipality received only three meetings over the two years of the Project, having an interval of four months between participative diagnosis meetings and the sustainable entrepreneurship courses, depending on the municipality considered, and from six to seven months between the sustainable entrepreneurship courses and the responsible fishing practices courses, also depending on the municipality analysed.

As for the locations, it was possible to verify the obstruction of dialogue, since the meetings occurred on the beaches and piers (Instituto Biopesca 2014f; 2014g; 2014h; 2014j; 2015a; 2015f), the workplaces of the fishers, which are open and windy areas, therefore not meeting the requirements of Isaacs (1999) about the importance of an environment with good acoustics and little distraction. Another obstruction to dialogue we found was the fact that some of the fishers were working while they talked to the NGO's members, which indicates a lack of attention and focus on the interaction (Isaacs 1999).

One other analysis point was the pedagogical strategies adopted in the different

EE meetings, where it was possible to identify some as potentiators of dialogue and others as obstacles. The participative diagnoses (Instituto Biopesca 2014g), by having stimulated the fishers' participation to identify and recognise the contradictions experienced by them, came quite close to a dialogical pedagogy (Andrade and Sorrentino 2014a; 2014b) that aims for historical-cultural unveiling.

Meanwhile, the course on responsible fishing practices (Instituto Biopesca 2015a), despite having adopted the circular arrangement of the participants, adopted discussion principles, different from dialogical principles, and appeared to be ruled by the NGO's presuppositions about the FAO's Code of Conduct for Responsible Fisheries (1995), with no indications of an openness to the fishers' vision, which makes the emergence of dialogue difficult (Bohm 2005; Isaacs 1999; Freire 1981).

The sustainable entrepreneurship course (Instituto Biopesca 2014g) was administered with a conservative pedagogical base (Andrade and Sorrentino 2014a), seeking to transmit the NGO's technical knowledge to the artisanal fishers, assuming a hierarchical posture and therefore, anti-dialogical (Freire 1983).

It is worth highlighting that the responsible fishing practices and techniques contest (Instituto Biopesca 2015c; 2015d; 2015e), in spite of bringing with it an interesting potential for the integration of traditional and scientific knowledge, was ruled by competitive and individualistic logic. Aside from this, it was based on the NGO's presuppositions on marine conservation, considering that they would be responsible for judging the best ideas to be rewarded. In this manner, this pedagogical strategy presented potentially obstructive characteristics to the emergence of dialogue (Bohm 2005; Freire 1981).

Another important point to consider in relation to the EE process developed was its discontinued and disjointed character (Brasil 1999). There are no indications of articulation between the participative diagnoses, the sustainable entrepreneurship courses and the responsible fishing practices courses. This indicates a fragmented comprehension of the process and constitutes an important challenge to be overcome by the NGO in the fragmentation of thought (Bohm 2005). This is confirmed by the statement of the NGO's coordination in affirming its unfamiliarity with the theories and methodologies of environmental education:

We've never been able to do specific work on environmental education or environmental communication with the fishers [...] with methodology [...] it was very improvised because my research area isn't the environmental education area, I don't work with education, I work with ecology. [...] this conversation between education and the biologist, we know we need it, but it's not us who do it because we don't have the theoretical conceptualisation to do it and we try to do it somehow

many times, straying from what would be best. (NGO Member 2 – coordination).

Such lack of knowledge in EE and its historical trajectory results in unfamiliarity with dialogue as a basic principle of educating praxis (Fórum Global das ONGs [NGO Global Forum] 1992; Freire 1981), bringing about the development of traditional and conservative processes of EE, marked by anti-dialogicity (Sauvé 2005; Andrade and Sorrentino 2014a; 2014b).

Internal aspects

In order to analyse the internal aspects, the basic presuppositions of the individuals involved were identified in the documents and interviews. The NGO entered the relationship guided by presuppositions on marine conservation of endangered species and the FAO's Code of Conduct for Responsible Fisheries (1995).

The fishers, in turn, entered the relationship with distrust and fear, in light of previous relations with other organisations. For them, such organisations use them to their own benefit, without considering their claims. Besides this, they distrust the scientific research performed, believing that they provide data for the researchers and that the results discovered, not shared with the fishers, serve to impair their fishing activity and, therefore, their lives. Finally, they are afraid of sanctions fixed by Brazilian law on the capture of endangered animals.

In light of these presuppositions and the work proposed by the NGO, through the project Projeto Pescador Amigo, right from the first contacts between the actors, a significant conflict arose which lasted throughout the two years of work. This conflict initiated two types of relationships between the NGO and the fishers, one that we call anti-dialogical and the other incipient dialogical.

Anti-dialogical relationship

This relationship was marked by the polarisation between the NGO and some fishers, since the actors adhered to their respective presuppositions, impeding empathy, listening, faith, humility, and trust as suggested by the authors of the dialogue (Bohm 2005; Isaacs 1993; 1999; 2012; Freire 1981).

Fisher 11 affirmed that 'they [the NGO] only wanted to know about dolphins, whales, penguins and turtles. [...] And if [...] there is any problem [they blame] the fisher', indicating that the members of the organisation did not seek to understand their point of view. Fisher 17 reinforces the idea when he affirms that 'they [the NGO] didn't give us any opportunity to participate [...] they [...] came here "ah, the turtle is dead?" "yeah," [...] "we're going to take it to study" [...] Cars came all week then [...] the time came when you know what happens? "ah, these guys are bothering us."'

In response to this resistant posture of the fishers, the members of the NGO adopted a persuasive posture in the attempt to get closer, as stated by Member 5 of the NGO, '[...] many times we tried to persuade the fisher [laughs], basically most of the time and there were cases where it didn't help at all, but generally we tried, even if they deny it.' Such an attitude can be understood as an attempt at domination of the other and cultural invasion, characteristic of the anti-dialogical attitude as defended by Freire (1981; 1983).

The persuasion brought as a consequence more anti-dialogicity to the relationship, setting off moments of verbal violence among the participants. Member 6 of the NGO affirmed that '[...] we got kicked in the field and had to keep quiet [...] there have been situations where we were sent away from the place [...]'. As a result, the NGO members removed themselves alleging, '[...] that didn't work out, so let's monitor another [fisher], this isn't our project focus, this fisher isn't going to change his attitude from what we're going to say' (Member 6 of the NGO). This attitude of withdrawal can be understood as conflict avoidance, passing over the initial stages of a potentially dialogical process which are characterised by fear and anger, as suggested by Bohm (2005) and Isaacs (1999).

In this manner, it is possible to perceive that there was no emergence of a relational dialogical field among these participants over the two years of the project. On the other hand, dialogical potentialities were identified, such as the fact that the fishers recognised the presuppositions of the NGO's marine conservation and it recognised their distrust and fear. This recognition is an important first step in the emergence of dialogue (Bohm 2005).

Moreover, it was possible to note an important self-criticism on the part of the NGO's coordination, attesting to their lack of knowledge about EE processes, as already mentioned in an earlier citation, and the recognition of a team with little experience in working with people.

This may indicate a latent possibility for the emergence of a dialogical relationship among the actors, in the case that they decide to suspend their presuppositions and open themselves to the other (Bohm 2005; Isaacs 1999), seeking to uncover together the historical-cultural aspects and build collaborative work (Freire 1981).

Incipient dialogical relation

This relationship initiated between the NGO members and other fishers, different from those cited in the previous relation, presented dialogical indications. Here the fishers affirmed that respect, openness to the other and humility were present in the relations among the actors. Fisher 9 affirmed that 'we could speak equal to equal [...]

they didn't come with a concrete idea for us and we had to, let's put it this way, accept it.' Another fisher affirmed that 'I never felt any oppression, any judgement, anything [...] no fear of any pressure, of any guilt' (Fisher 4). Fisher 14 said that 'they [the NGO] listened a lot, even listened to that which had nothing to do with their job. Stuff we were having trouble with, this business of environmental documentation, we talked with them, they [...] looked into what they could do.'

As the relationship unfolded, the fishers could suspend their presuppositions of fear and distrust concerning the NGO. One interesting case that confirms this affirmation is that of Fisher 14. A short time before meeting the members of the NGO, he had his net seized by the inspectorate because he had unintentionally captured a sea turtle. Faced with this situation, at the first contact with the members of the NGO, he refused to contribute for fear of new punishments. Recognising the fear and insecurity of the fisher, the NGO member invited him to go to the inspectorate and show him that there was no problem in bringing in unintentionally captured animals. The fisher accepted the invitation, the two actors talked to the inspectors and from then on, began to work together in such a way that the fisher began to bring in the unintentionally captured animals.

This situation demonstrates a dialogical moment experienced by the actors from facing an emergent conflict at the first contact, as suggested by Bohm (2005) and Isaacs (1999), requiring a humble attitude and faith in the relationship as proposed by Freire (1981). On the one hand, the NGO member was able to recognise the presuppositions of fear and distrust of the fisher and propose facing the conflict through a visit to the inspectorate. On the other, the fisher was open to suspending his presuppositions for the relationship, accepting the invitation and transforming his way of thinking and acting with the NGO and his fishing practice.

It also appears that, with the development of this relationship, a feeling of hope arose (Freire 1981) on the part of the fishers in the work developed by the NGO, believing that it could demystify the negative image of fishers as the villains of the sea. This perspective is opposite to that of the fishers who established a relationship of polarisation with the NGO. Furthermore, the joint work of the participants seems to have sparked a feeling of union, as suggested by Freire (1981), to deal with the problem of bycatch, as Fisher 13 suggests '[...] we were trying to unite so that this [bycatch] cut down as much as possible.'

However, it is worth highlighting that this collaborative work seems to have been based on the NGO's presuppositions of marine conservation, which were adopted by the fishers open to the relationship and who suspended their own presuppositions about such organisations. This is sustained as no indications that the NGO had suspended its presuppositions were found over the two years of the Project. On the

other hand, indications of such exercise were found after the work was finished.

Some members of the NGO recognised the existence of goals and agreed upon benefit packages with the sponsor, as well as the conservationist presupposition with obstacles to the relationship, thus achieving the practice of suspension of Bohm (2005). NGO Member 1 affirmed that it is ‘[...] difficult to create a relationship [...] of trust and more proximity when, in a certain way, [...] the benefit puts itself between two people, you know? With the “have to” do something or what needs to be done, some rules to be followed.’ ONG member 4 added,

We had great reports on capture, but in compensation the part of how to do the social work was lacking, we sinned on this part [...] I believe that it wasn't one of the pillars of the project [...] we were there, in their daily life with them, we could have thought a little more about this part [...] it was really sort of a lack of experience.

Thus, it can be inferred that the emergence of the incipient dialogical relationship happened much more because of the fishers' attitudes, who were open to suspending their presuppositions, listening and respecting the other, as suggested by Bohm (2005) and Isaacs (1999), than because of the NGO's attitude, keeping in mind that it approached all of the fishers in the same manner, establishing with some a relationship marked by anti-dialogicity. Nevertheless, it was not possible to find indications that permit the understanding of the motivations that took the fishers from the incipient dialogical relationship to adopt such principles.

Dialogical action

There were indications found that the process of the culture circles of Freire (1981) was started. The participative diagnoses were moments in the relationship between NGO members and fishers in which there was sharing and listening to the challenges faced by the latter, such as the difficulty of getting licensed, conflicts with industrial fisheries, and difficulties in dealing with representative bodies (Instituto Biopesca 2014f).

However, such moments did not unfold into new collaborations between the actors, as Freire (1981) suggests, seeking to recognise the contradictions experienced, understanding them as historical-cultural constructions and proposing interventions to change reality. Fisher 10 stated that ‘there was nothing like this [joint actions], I don't remember anything like this “let's do it together,” nothing like that, there were ideas put forward, but in practice, few.’ NGO Member 4 agreed with that idea, saying, ‘I believe these [joint actions] were something that went down on paper [...] I don't remember that we worked on that, on something they needed, some claim.’

Only the location of Boissucanga, in the municipality of São Sebastião, went a step further by asking the NGO to hold a meeting on community-based tourism. On the day of the meeting, however, the participation of the fishers was small, with only nine participants, in relation to the first meeting that had twenty-five (Instituto Biopesca 2014g). There were no indications of the reasons for such a scenario. After this meeting, there was no continuation of the process, indicating the non-prioritisation of a continued character for the processes performed.

In this way, it is possible to perceive that in spite of the existence of dialogical indications, such as respect, faith, humility, trust, hope and suspension of the presuppositions among the actors who experienced the incipient dialogical relationship, there was no emergence of a dialogical action as proposed by Freire (1981; 1983), characterised by a joint effort in the search for the transformation of reality. It is possible to affirm that the participative diagnoses consisted of a suppressed dialogical emergence.

Other obstacles and potentialities

In addition to the obstacles and potentialities previously identified within the three categories of analysis, others were found that deserve attention. One obstacle identified was the fact that there was no indication that the actors recognised the importance and deliberated through dialogue during the relationship, reinforcing the anti-dialogical cultural habits prevailing in the interpersonal relations (Buber 1979; Bohm 2005; Isaacs 1999; Freire 1981).

Another obstacle identified was the failure of the cultural synthesis proposed by Freire (1981) during the EE meetings. The emerging conflicts between NGO members and fishers who established an anti-dialogical relationship with each other were quieted. According to Fisher 7 '[...] when the conversation was getting a bit agitated the folks [from the NGO] would already start joking around to relax a little, understand? [...] they [the NGO staff] would already get into it like this to take the focus off of that conversation there and come to an agreement.'

This attempt at placating conflict indicates a pretension to create a civil environment, one of accommodation, not permitting the development of the dialogical process (Bohm 2005; Isaacs 1999). On the other hand, such a situation presents a dialogical potentiality, since the search for agreement, as suggested by the fisher, can be understood as a moment of negotiation, which is considered a preliminary stage for the dialogical process (Bohm 2005).

One potentiality found was the choice of the meetings' locations among the actors. If on the one hand they were not in agreement with the recommendations for acoustics and focus suggested by Isaacs (1999), as previously presented, on the other they did

demonstrate care on the part of the NGO to meet the fishers in their localities and life contexts, which can constitute a dialogic indication. Fisher 13 affirmed that ‘[...] you [from the NGO] come from so far to our community here. This shows importance to us [...].’

Another potentiality found was that the NGO was responsible for the exchange of knowledge among the fishing communities about the different fishing practices on the central coast of São Paulo. Fisher 12 affirmed that ‘every time you come here, you bring some experience from another region to us [...] So it’s daily learning with you, that you always brought to us.’ Thus, the NGO consists of a polliniser of ideas and promotor of articulation among the fishers, which characterises important indications for dialogical action (Freire 1981).

Consequences of dialogical incipience for the processes of environmental education

In light of all the results discussed above, it is possible to affirm that the relationship of the actors was marked by the inception of dialogue. This scene conforms, on one side, to the historical trajectory of the artisanal fishers, marked by anti-dialogicity, since they suffer cultural domination and imposition by the capitalist system (Diegues 1983; 1995; 2001; Freire 1981; 1983; Marrul-Filho 2001). On the other, the NGO considered in this research seems to have distanced itself from the values and principal characteristics of the centres of popular education (Oliveira and Haddad 2001; Steil and Carvalho 2007) and citizenship NGOs (Gohn 2010; 2013; Machado 2012), organisations that gave origin to the current NGOs and that possess dialogue as a basic principle, considering that it did not promote historical-cultural unveiling and maintained adherence to the marine conservation presuppositions.

A process of EE based on these presuppositions seeks to promote the conservation of natural resources without considering the sociocultural aspects. This perspective represents a limited vision of EE coupled with the conception of sustainable development (Sauvé 2005), which adopts the principles of capitalist progress defended by developed countries (Diegues 1992). It is lacking in critical vision of the values and beliefs behind the processes of production and consumption (Diegues 2008; Carvalho 2004; Sorrentino 1995), promoters of anti-dialogicity (Buber 1979; 2014; Bohm 2005; Freire 1983).

This EE does not promote a transition to a new model of fishing as the NGO involved intended. It adopts and reinforces the markers of anti-dialogicity by considering the other in an objectifying manner and therefore reinforcing the historical anti-dialogical aspects experienced by the actors. It contributes to the maintenance of the predominance of I–IT relationships, as suggested by Buber (1979; 2014).

On the other hand, this finding does not entail blaming, since we live immersed in a neoliberal capitalist culture which reinforces an anti-dialogical existence marked by individualism, competition, objectification of the other, and the incessant search for profit (Diegues 2008; Gohn 2010; Steil and Carvalho 2007), many times without any awareness of the force that these presuppositions have in our lives.

Thus, seeking to overcome these anti-dialogical characteristics presents itself as an important challenge to EE which intends to promote real changes in the search for sustainable societies. It is necessary to practice self-reflection (Oca 2016), a type of internal dialogue that permits the identification of the cultivated presuppositions and the posterior emergence of conflict between the anti-dialogical values and the new, dialogical ones. This individual practice should be stimulated in relations with others, seeking together to uncover the cultural presuppositions that guide their lives, deconstructing them and constructing anew in direction of collective utopias (Bohm 2005; Isaacs 1999; Freire 1981; 1983; 2013).

Final Considerations

With the development of this research, it was possible to verify that the relationship between the NGO and the artisanal fishers, initiated by means of an environmental education process to face the conflict between marine conservation and fishing in search of a transition to a new model of fishing, was characterised by the predominance of obstacles to dialogue with a few marked moments of dialogical indications.

The external dialogical aspects among the actors were restricted to the frequency of the conversations and certain formations of the participants in the moments of conversation, diagnosis, and courses about responsible fishing practices. In relation to the internal aspects, two types of relationship were formed, one anti-dialogical and the other incipient dialogical. The dialogical action was begun with the participative diagnoses, but for lack of continuity consisted of a suppressed dialogical emergence.

Regarding the pedagogical strategies used in the environmental education meetings, only that with participative diagnoses potentialised dialogue. The strategies of lecture, discussion, and competition adopted in the entrepreneurship courses, the courses on responsible fishing practices, and the contest respectively, in turn, obstructed the emergence of dialogue.

It is relevant to recognise that the transition to a new model of fishing should happen in conjunction with a transition to new forms of interpersonal relations, surpassing the predominant anti-dialogical values, heading toward new values that permit, in an increasingly intense form, the experience of a dialogical existence.

This research aimed to contribute with the construction of possible indicators to be used in educational contexts, and possibly others, so that people may, individually and collectively, perform the exercise of recognising their presuppositions and suspending them. The aim is to increase comprehension and empathy, as well as make possible the establishment of collaborative actions that aspire to transform the different aspects of reality in the direction of the shared utopias.

Some recommendations to be considered in work that aspires to the much-desired transition to a new model of fishing are: in the first place, recognise the importance of and adopt dialogical principles in your practices; exercise the suspension of presuppositions on marine conservation, opening up to the comprehension of the other and the possibility of new insights, appropriate environmental education theories and methodologies, and understanding of the nuances of this field of knowledge; strive for the best external aspects of the meetings, seeking to guarantee the circular arrangement of the participants, a location with good acoustics and focus on the meeting; see conflicts as opportunities for dialogical emergence, facing them and not suppressing them; and, finally, reinforce the dialogical characteristics already present in your practices and those that were identified by this research.

It is also worth articulating recommendations to the initiatives' sponsors like the one investigated here. The search to surpass quantitative logic is important, valuing the quality of the processes funded, particularly those related to education. For such processes to be successful, it is necessary to stimulate their continuity, medium- to long-term, seeking to overcome short-term sporadic actions. It is necessary to stimulate articulation between different initiatives so that together they amplify the strength of their results. It is necessary to stimulate the adoption of dialogue as a basic principle for these processes.

Finally, the importance and necessity of more research that investigates the EE processes are underscored, since the results obtained here do not seem to be exclusive to the case investigated and the negative presuppositions of the fishers concerning the NGOs indicate a history of relationships potentially marked by anti-dialogical characteristics. Moreover, it is hoped that reflection is stimulated regarding daily EE practices and the relationships initiated among those who shared the educating experience.

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