Interaction between research and practice to create an environmental education proposal for the black lion tamarin conservation at São Paulo Zoo, Brazil

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The São Paulo Zoo has experience in educational practices about biodiversity conservation, but the environmental education research is developing and little interaction between practices and theory is observed. This interaction could be strengthened by using participatory methodologies that promote the exchange of knowledge among zoo professionals and the interplay between practices and research. The objective of this study was to discuss the contribution of the participatory methodologies used during our master’s research experience of designing and implementing an educational proposal at São Paulo Zoo, as a possibility to bring closer EE research and practice. This study highlights the feasibility of developing a participatory proposal in informal education institutions which have hierarchical structures, allowing the interaction of several professionals, practices and theory.

Zoos are of great relevance for wildlife conservation. Among their missions are the research in wildlife conservation; the development of conservation projects that allows interactions among in-situ and ex-situ conservation professionals; the leisure and entertainment of public; and, finally, educational activities (Auricchio, 1999; Conway, 1969; 1995; 2003; Knowles, 2003; Miller et al., 2004; Patrick; Tunnicliffe, 2012). Zoos are very important for environmental education practices toward changing attitudes and values about the socio-environmental context in which we live, considering that a significant part of society lives in urban areas and has little contact with natural elements (Conway, 1969). One of the main areas to be developed in these institutions to overcome the anthropocentrism in our societies is biodiversity conservation (Dreyfrus, Wals, Van Weelie, 1999; Van Weelie, Wals, 2002; Navarro-Perez, Tid-Ball, 2012).

According to the World Association of Zoos and Aquariums [WAZA] the zoo and aquarium community worldwide welcomes over 700 million visitors annually. São Paulo Zoo (Brazil), has approximately one and a half million visitors every year and is one of the most important zoos in Latin America and the largest in Brazil. Its 90-hectare area has over 3,000 rare and endangered animals of several species. The zoo is located in Fontes do Ipiranga State Park, a protected area of Atlantic Forest inside an urbanized area which has a high population (Fernandes et al., 2002). Nowadays, São Paulo Zoo has a staff of approximately 400 across departments.

In addition to the development of environmental education practices, the São Paulo Zoo also contributes to conservation projects for threatened species, for example the conservation programme for black lion tamarin (Leontopithecus chrysopygus), which develops research on different fields (biology, ecology, genetics and environmental education) about this threatened species endemic to São Paulo’s Atlantic Forest. Within this Program, a new ‘exhibit’ was inaugurated at São Paulo Zoo on August, 2014, a space-that-educates called “On Kinha’s Trail” (Figure 1), whose goal is to provide an interactive space for the public, where they can learn about the species’ biology and ecology, understand the threats to its preservation and the main conservation actions undertaken by various institutions, and also learn how to participate and contribute towards the species conservation. This study highlights the feasibility of developing a participatory proposal in informal education institutions which have hierarchical structures, allowing the interaction of several professionals, practices and theory.

Figure 1: The space-that-educates “On Kinha’s Trail” at São Paulo Zoo.
knowledge among different professionals, such as biologists, veterinarians, educators, students, directors and others. The research was outlined in four steps: 1) the development of participatory diagnoses with 19 Zoo's professionals (including biologists, veterinarians, educators, designers, engineer and directors) to define the educative elements; 2) the planning of an educational proposal for the space-that-educates involving the same professionals above, which contains the description of all the educative elements and contents about black lion tamarin and Atlantic Forest that could be included; 3) the implementation process involving over 30 São Paulo Zoo's staff; and finally 4), the reflexive analysis about the design and implement process with the participation of all those people involved in research (Martins, 2015).

It is important to emphasize that this whole process was not only conducted by educators. The zoo's community was encouraged to reflect on their experiences and technical knowledge and to participate in all the research steps to design and implement an educational proposal about black lion tamarin conservation. Wildlife conservation is a complex and multidisciplinary task; therefore, the development of a research process which values the interactions among professionals at different areas of an institution is really important to implement activities in this field, considering on a critical environmental education perspective.

In São Paulo Zoo, the educators’ team has an Environmental Education Program and great experience in educational practices for a wide variety of audiences, including guided tour for students, training programs for teachers, exhibitions, special program for elderly people and educational campaigns. However, the environmental education research is incipient and there is little interaction between the practical experiences with theory and research methodologies.

According to the Association of Zoos and Aquariums [AZA] only 40% of the zoos in the world include research as an essential component in their missions (Benirschke, 1987; Patrick et al., 2007). This seems to be linked with the intense demands of zoos routines and the lack of a team to carry out research in an integrated manner.

In the educational context, Oliveira & Oliveira (2014) investigated environmental education research developed in Brazilian zoos and found only 21 Master’s investigations and one PhD thesis, but all of them were developed in universities, mainly in Post-Grad Programs, having zoos only as a space for conducting their investigations.

Based on these issues, the objective of this study was to discuss the contribution of the participatory methodologies used during our masters’ research experience of designing and implementing a space-that-educates at São Paulo Zoo, as a possibility to bring closer environmental education research and practice.

Methodological approach

In Brazil there is a large experience on using participatory approaches to implement educative practices allowing the involvement of the community, and participation is an essential element for environmental education research and practice (Figueiredo, 2013), which proposes to encourage dialogue between those who are involved in the educational process (Freire, 1994). In this field, researchers and educators frequently use participatory and discussion to overcome the social and environmental impacts (Oliveira, 2013).

An educative proposal that is critical and political should be planned in a participatory perspective, giving value to the knowledge of different participants in order to establish a space of trust (Santos; Costa-Pinto, 2005). Based on this, the interaction between environmental education research and practices could be strengthened by participatory approaches, as Action Research, Participatory Research or Participatory Action Research (Brandão 1999; 2000; Thiollent, 2000; Barbier, 2004).

To design and implement an educational proposal concerning black-lion-tamarin conservation, the option chosen was to articulate the practical experience of zoo staff and the theoretical and methodological framework of research, using Participatory Action Research. In addition to this perspective, the selected option was to design and implement not a mere space, but one that has an educational intention that ought to provide experiences to inspire people to change attitudes, positions and values. This is the “space-that-educates” concept, a term proposed by Matarezi (2000, 2005, 2006) which was used as a theoretical framework. Participation and involvement are essential for the planning of a space-that-educates. Following these theoretical perspectives, a focal group with five Zoo professionals who had participated during the whole process was developed to grasp their perceptions regarding this participative approach and to understand same aspects that could contribute to bring research and theory closer for the zoo’s professional routine.

Perceptions of São Paulo Zoo professionals about the contribution of the participatory approach during the implementation of “On Kinha’s Trail”

At the focal group, the participants emphasized the potential benefits of using participatory methodologies in critical environmental education research. These are: the diversity in participation levels during the process; the researcher’s attitude and role; the establishment of a reliable space with the zoo’s professionals; the essential interaction between research and practice; and, finally, the potential of transformation in this participative educational process, which
establishes new sources for further practices. The most significant of these included the exchange of knowledge among the São Paulo Zoo’s professionals and the interaction between research and practice.

The design and implementation process of “On Kinha’s Trail” involved a wide range of people, who contributed with their experience and knowledge from areas such as animal management, nutrition, education, administration, animal welfare, engineering, visual communication, veterinary and others. Based on this, we observed heterogeneity of actions that contributed to enrich the educational proposal, respecting the peculiarities and limitations of each person involved, characterizing a democratic educational process.

Oliveira (2013) highlights that an educational process created on a participatory perspective have different approaches and participation levels. In this case, it is believed that educational practices or researches on a participatory perspective which considers the homogeneous participation of the people involved reflect a naive perspective of environmental education, which doesn’t value and understand the contexts, feelings, knowledge and demands of each person and even doesn’t provide freedom, reflection and empowerment of the people involved. The heterogeneity and diversity of participation is essential to conduct educational practices and critical environmental education research.

Based on this participatory perspective, we appreciated and value the practical experience of São Paulo Zoo’s professionals and brought the theoretical and methodological framework to the reality of educators, sharing a new knowledge. It was noted that the educators’ team did not have a specific time to discuss about environmental education research and about how they could integrate this field in their routine. Even so, they had a desire to study and understand the theoretical and methodological approach used in research. The participatory process developed to design and implement the space-that-educates also contributed to establish a partnership among researchers and the zoo’s educators and to show some paths to be followed by the educators’ team in order to strengthen the interaction between their practice with research and theory approach.

For these reasons, an Environmental Education Research Group at São Paulo Zoo was created as an interesting and unexpected result promoted by the partnership among researchers and educators during this study. The formation of this Research Group came from the interests and desires of the zoo educators’ team to understand the ontological, epistemological and methodological characteristics of environmental education research in order to enrich the link between practice and theory.

This Group started on January, 2014 and since then we have already analyzed several types of guided tours, submitted one paper about a Teacher Training Program and developed an Educator Formation Course at São Paulo Zoo.

Final thoughts

This study offers a contribution about potentialities of participatory methodologies to strengthen the relation between practice and environmental education research at zoos. Based on the relevant and original process developed to design a space-that-educates at São Paulo Zoo, there are aspects that show the importance of participatory perspectives to integrate practical experiences with research.

It was a challenge to develop this educational and participatory process involving so many professionals with different routines and activities. Even so, this study also highlights the feasibility of developing participatory educational activities and research in informal education institutions which have hierarchical structures involving several departments and professionals. We hope this experience could inspire other zoos to design and implement their own space-that-educates in a participatory perspective and perhaps establish a group to discuss the theoretical and methodological frameworks in their educative practical experience.

References


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