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## BRINGING SCIENCE TEACHING TO THE CONTEXT OF INDIGENOUS EDUCATION IN BRAZIL

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### *Ivens Balduino dos Santos Carneiro*

Graduating Student: Universidade Estadual do Ceará, Health Sciences Center/Biological Sciences Course, Fortaleza - Ceará  
<http://lattes.cnpq.br/7645702570421594>

### *Raíssa Ferreira de Sousa*

Graduating Student: "Universidade Estadual do Ceará", Health Sciences Center/Biological Sciences Course, Fortaleza - Ceará  
<http://lattes.cnpq.br/6661223123543606>

### *Beatriz Rodrigues de Souza*

Graduating Student: "Universidade Estadual do Ceará", Health Sciences Center/Biological Sciences Course, Fortaleza - Ceará  
<http://lattes.cnpq.br/7289018745900053>

### *Jeanne Barros Leal de Pontes Medeiros*

Training: Biological Sciences by the Institution: Universidade Federal do Ceará (UFC), Doctorate in Education by the institution: Universidade Estadual do Ceará (UECE), Master in Development and Environment by the Institution: Universidade Federal do Ceará (UFC), Specialization in Botany, Effective Professor: "Universidade Estadual do Ceará", Health Sciences Center/Biological Sciences Course, Fortaleza - Ceará  
<http://lattes.cnpq.br/0916448786695904>

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***Emanuele Ribeiro Ramos***

Training: Nursing by the institution:  
Faculdade Grande Fortaleza, Master's  
student: Universidade Estadual do  
Ceará, Health Sciences Center/Master  
in Health Teaching, Fortaleza - Ceará  
<http://lattes.cnpq.br/7693813636056159>

***Luis Flávio Mendes Saraiva***

Training: Agronomy by the institution:  
Universidade Federal do Ceará (UFC),  
Master and Doctorate in the Department  
of Biochemistry and Molecular Biology of  
the Institution: Universidade Federal do  
Ceará (UFC), Effective Professor of the  
Institution: " Universidade Estadual do  
Ceará", Health Sciences Center/Biological  
Sciences Course, Fortaleza - Ceará  
<http://lattes.cnpq.br/1188264875313588>

**Abstract:** Indigenous education in Brazil is not unified; Each community or tribal context will require distinct tools in the proposals and objectives of teaching. To promote the right to education for indigenous peoples, it is necessary to draw an instrumental resource profile for this purpose. Thus, this work used bibliographic research and the exploratory qualitative method to investigate in the literature effective strategies to bring science teaching to the country's indigenous schools.

**Keywords:** Indigenous education. Environment. Sciences.

## INTRODUCTION

It is clear that the original peoples hold the genesis of various popular knowledge, about more varied subjects, from music to principles of pharmacognosia (CAVALLO, 2018). Above all, indigenous peoples in Brazil correspond to this ethnic/cultural base, in which orality and the record of this story act as an educational element.

Thus, the indigenous school does not propose to the same liturgy as a conventional school, since it must reach the specific desires of each indigenous population (LIMA, 2018), because there is no homogeneous indigenous identity throughout the country. In the indigenous school there is another didactic, there is another organization and school management, and must not function as the education of the "city". And education there functioning as a resource of continuity to indigenous historical struggles. In other words, conventional education usually has a distinct purpose of the indigenous (SILVA, 2018).

Instrumentally, there is an approximation between indigenous school education and environmental education (URRUTH & CALIXTO, 2018). Therefore, it is necessary to analyze the present situation and future perspectives of schools in villages, with the

acquisition of academic (in human terms) and technological resources in the process of knowledge transmission (SEALS, 2008).

Most of the works were guided by interviews and ethnographic immersions and aimed to highlight, specifically, the role of indigenous education at the elementary and high level of certain communities spread across the country, however, there is a shortage of materials that refer to general topics for The teaching of sciences applicable to indigenous school education at the elementary level.

Given the above, the present work was carried out during the discipline of Educational Research Methodology - which occurs in the context of a degree course in Biological Sciences, therefore, forming teachers and being the result of this training - and aimed to explore topics in common, in Literature, which characterize functional tools and methodologies for science teaching, in Elementary 1, in indigenous schools in Brazil.

## **METHODOLOGY**

As stimulated during the discipline, the first stage performed was a qualitative and exploratory research focused on the bibliographic survey of academic literature (de Sousa, de Oliveira and Alves, 2021) about education in Brazilian indigenous schools, to investigate why scientific knowledge be necessary there. And in a second moment, still through bibliographic research, find out the best method to bring science teaching to the classrooms of these peoples.

## **RESULTS AND DISCUSSION**

In thinking of indigenous education it is necessary to have a look that, in fact, prioritizes the indigenous people, however, cultural exchanges are valid and enriching, when made with parsimony and due respect for individuals and communities. This explains the fact that most of the works raised

are characterized by qualitative studies, with interviews and bibliographic research, but above all were ethnographic immersions. Thus, it is bringing this principle, an education made by the indigenous people, with them and for them, that one comes to the understanding of the need for what is seen in the science classrooms in the living or indigenous context. Therefore, from a scientific perspective, the village is a vast field of research and works on indigenous health and the environment.

In this environmental perspective, indigenous knowledge tangents several aspects, which can be in contexts of: 1) ethnobiology, and specifically ethnozoology, in which indigenous students bring their perceptions about fauna in hunting and fishing (Razera, Boccardo and Pereira, 2006); 2) Sustainability, because it is directly linked to its survival, since indigenous people transmit this knowledge to future generations to maintain their habitat; 3) Territoriality, by visualizing the various possible uses for indigenous lands; 4) Agroecology, because indigenous lands have several distinct productivity rates and a diversity of subsistence-grown species (Robert, 2012), demonstrating a range of agricultural techniques and traditional practices in cultivation selection (Kriegel, Azevedo e Silva, 2013) ; 5) Phytotherapy, implicated by cultivation and knowledge of managed species of the natural environment (idem) and pharmacognostic processes according to traditional ethnobotanical knowledge or in primary health care applications, as there are implications of therapeutic, cultural and historical nature of the use of species botanics in the prevention and cure of diseases (Santos-Lima, 2016). All of this can be synthesized in the clarity of the scientific importance of what is experienced among indigenous peoples.

Still in the meantime, scientific knowledge in indigenous villages will be a facilitating instrument for the success of health practices

aimed at attending these peoples. Thus, as it was explained by Coutinho, Travassos and Amaral (2002), sometimes health agents of these communities resort to ethnobotanical knowledge to deal with their diseases. Therefore, traditional knowledge must interculturally dialogue with health programs (MENDES, 2018). Thus, as many problems as possible, from the understanding of the sociocultural realities themselves will be solved.

In the work of Toledo and Pelicioni (2009), it was demonstrated the use of the Spell Maps tool as an environmental education resource with emphasis on the health problem of the community, which helped participants visualize their context and place and also the perspectives with reflections and proposals to solve the problems. Thus, when proposed activities of the environmental education nature, pervading indigenous realities, the place where they live and the people with whom they live are enrichment in health issues and practical knowledge. Therefore, it seems much more logical and conducive to develop these themes in the classroom, so that science is not seen as an element outside indigenous reality, but from an early age it can be presented as an intrinsic element to its lives and demands.

As verified by Paredes (2008), most teachers in an indigenous school are concerned with: presenting content adequate to the students' reality; They feel the need to develop environmental education activities; They see health problems (especially with waste) as the most recurring and serious of the community; And finally, they see the need for a community mobilization, which makes use of posters, bands and impact phrases, in the Portuguese language and in their native language, as awareness instruments. The indigenous school is also a space for strengthening cultural identities, so when - as

described by Santos (2021) - governments, at the municipal and state level reserve the same textbooks as rural schools for them, teachers tend to unfold In extra works, since teaching as a whole, but especially in science, will demand an interdisciplinarity.

## **FINAL CONSIDERATIONS**

To understand the importance of reports obtained through the elected methodology, it was possible to obtain a review of topics obtained above all by ethnographic immersions, discussed and understood in the classroom. It can be concluded that science teaching in indigenous schools cannot be oblivious to the demands and context of each tribe or community, inferring the use of environmental education tools that will usually be effective instruments in understanding indigenous identity itself ( many ethnobiological elements), their environment and the problems they have to face (especially in the sanitary) and propose solutions. Another essential point is, to league to the governmental instances of education structure the task of knowing and understanding the uniqueness of each indigenous community, so that it is possible to work with a didactic material of sciences that correspond to that culture. It is also worth noting that the works that proposed a real solution to the problem have used the participation of both the school, with young people and children and the community in educational activities, which signals that a student-family integration or school-community will be effective in the educational process.

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