International Journal of Humanities and Social Science Invention (IJHSSI)
ISSN (Online): 2319 – 7722, ISSN (Print): 2319 – 7714
www.ijhssi.org ||Volume 7 Issue 03 Ver. V ||March. 2018 || PP.11-14

Soil primer: a proposal of school support product in the semi-arid region of Brazil

Msc. Ailson de Lima Marques[1], MscUlissesDornelas Belmont Neri[2],Msc.JuliaDiniz de Oliveira[3], DR. Debora Coelho Moura[4]
[1](Department of Soils and Agrarian Engineering / Federal University of Paraíba, Brazil)
[2](Department of Geography / Federal University of Campina Grande, Brazil)
[3](Department of Geography / Federal University of Rio Grande do Norte, Brazil)
[4](Department of Geography / Federal University of Campina Grande, Brazil)

Corresponding author: Msc. Ailson de Lima Marques

ABSTRACT: *The process of teaching and learning geography contents, in particular the soil-landscape subject, in general, are worked superficially or precariously in the Brazilian basic education due to deficiency in the national curricular parameters approved by the Legislation. Therefore, this objective work shows the entire process of making a primer developed by students of the basic education of the Brazilian semi-arid and geography higher education students, during the required supervised internship to obtain a geography teacher diploma. This primer aims to support and enable teachers and students to apply the contents of semiarid soils, taking into account aspects such as profiles, color, texture, information of uses, fertility and conservation. For this, in the supervised stage the following methodological procedures were adopted: characterization of the study area; bibliographic survey; theoretical and practical classes and preparation of the booklet. The main result of this process corresponded to the booklet elaborated during the teaching and learning process, where the contents covered in the booklet correspond to the following topics: What are solos; how they are inserted in our daily life; How to form different types of soils (Entisols and Oxisols), as well as issues of use and management in climatic extreme environments. Finally, the booklet was distributed in schools for teachers and students, presents a glossary with technical terms, in order to address possible doubts. In addition, it features an internet version that can be freely downloaded anywhere in the region.*
KEYWORDS *-educational support, geography, soil*

DATE OF SUBMISSION: 17-03-2018 DATE OF ACCEPTANCE: 01-04-2018

I. INTRODUCTION

The present work arose from the interest in knowing the dimensions that are associated to the teaching practice and the contents of geography, specifically in basic education. The proposal to consider such contents arose from the recognition that the curricular components related to physical geography are usually worked superficially or precariously at this school stage (SANTOS and SILVEIRA, 2001).

In this sense, Venturi (2005) points out that the precariousness of Physical Geography subjects constitutes a serious problem for the whole school community. In this way, demographic, agrarian, urban, industrial, energy, logistic and socio-cultural issues are no longer addressed in a systematic approach.

Among the contents of the physical geography listed by the National Curricular Parameters (NCP) of the Brazilian Legislation, the themes inherent to nature stand out, such as issues related to the soil and its characteristics, which should be addressed in the initial years of elementary education, especially in the first year of the third cycle (SILVA et al., 2008).

The NCPs also point out that the inclusion of the theme solos in the initial grades of elementary school is interesting, since early on the child is awakened on the relevance of this resource for the human being and the environment. Therefore, in subsequent grades, knowledge about the subject must be progressively deepened, so that students can acquire a basis on the interrelation of the soil with the other elements of the environment, its spatial distribution, formation process, main characteristics and some management and conservation (SILVA et al., 2008).

However, Sposito (1999) warns that NCPs should not be considered unanimously adequate. This concern is also expressed by Pontuschka (1999), stating that NCPs are intended "for the minority of well-educated teachers who, to a greater or lesser extent, already know the most up-to-date bibliography and follow the path traveled by science.

For FeltranFilho et al. (1996), teachers of basic education present significant conceptual and methodological difficulties in approaches to soil content. These difficulties are built on the specificity of content and / or deficiencies in academic training. In addition, many school pedagogical teams do not position themselves critically against the textbook and ignore the complementation with other bibliographies or materials.

This whole context is part of a much broader discussion. Briefly, some authors agree that the teacher should adopt different methodologies and pedagogical materials, and that arouse the students' interest in the dynamics of the soils in the landscape and lead them to a critical position regarding the process of appropriation of space by the human being.

Faced with the difficulty of some teachers in approaching contents of geography, specifically in subjects involving soil, some didactic resources can become an important instrument, among them, primers, images, soil profile, among others. In this context Lima et al. (2007) states that soil is a fundamental component of the terrestrial ecosystem because it is the main substrate used by plants for their growth and dissemination.

The soil provides the roots with growth factors, such as: support, water, oxygen and nutrients. In addition, the soil exerts a multiplicity of functions, namely: a) regulation of distribution, storage, flow and infiltration of rainwater and irrigation; b) storage and cycling of nutrients for plants and other organisms; c) filtering action of pollutants and protection of water quality. The human being also uses the soil as raw material or substrate for civil works (houses, industries, roads), ceramics and handicrafts. As a dynamic natural resource, the soil can be degraded due to its inadequate use by humans. In this condition, the performance of its basic functions is severely impaired, causing negative interferences in the environmental balance, and drastically reducing the quality of life in the ecosystems.

It should be emphasized that the subject must be approached in all disciplines in an interdisciplinary way, with different degrees of complexity according to the cycle in which one is working. In this work we seek to emphasize soil as a component of the geosystem, which is part of our daily life, be it in fertility, geomorphological dynamics, biogeographic substrate, and ecological dynamics, but always in a systemic perspective of environmental education in semiarid.

Therefore, to create alternative didactic materials that are made with the support of the students themselves becomes a stimulating method in teaching, and at the same time a multidisciplinary alternative of potentiating the teaching about soils and their correlations. From this scenario, we had as general objective and product a booklet that enables elementary school teachers to develop contents on the pedogenesis of a clayey soil and sandy soil, having as aspects the differentiation of the profiles, color, texture, information of uses , fertility and conservation. It should be emphasized that the proposal to produce a booklet on soils, considered some dimensions that go beyond the contents contact with the field, but since its elaboration, structural conditions for the execution and of the environment that direct and determine the success or failure in the use of this type of resource.

II. METHODOLOGY

2.1 The school

The proposal in question was developed in the municipality of Campina Grande - PB, located in the semi-arid northeast region of Brazil, at the Maria Emília Oliveira de Almeida State Elementary School, located in the PresidenteMédici neighborhood, from March to May 2016. requirement of the supervised compulsory internship of the full degree course in Geography of the Federal University of Campina Grande – PB.

It was carried out in a simple design, with the title "Solos naCartilha". In order to do so, we had the support of the students of the 6th year of elementary school, who were chosen according to criteria of identification with the subject matter. Initially all students are involved. However, only eight students participated actively in the project. The project was developed in 30 hours.

2.2 The project

The general objective of the project "Solos naCartilha", which worked with the pedagogy of projects, was the creation of a Primer to expose the morphogenegenesis of a clay soil and a sandy soil of the semiarid, having as aspects the profiles, color, texture, usage information, fertility and conservation.

Thus it can be used by students and teachers in elementary school classes (6th YEAR), but not limiting their use in High School and University. The specific objectives were divided into:

Conceptual:

- to discuss in the classroom about genesis and morphology;
- Discuss in classroom about uses, fertility and soil conservation;
- Discuss in the classroom on relevant themes in environmental education and soil;

Procedures:

- To enable the students in the field on identification and removal of different soil profiles;
- To make the soil primer;
  Attitudinal:
- Hold an event at the school in which the students involved will; present the contents seized throughout the project, present the booklet and donate copies to the school.

2.3 Procedural steps

2.3.1 Bibliographic survey

This stage of the research was dedicated to the search for bibliographical references related to the subject of study. Where different bibliographic sources were consulted, such as individual publications, newsletters, journals, journals, books, researches developed, monographs, dissertations, theses, among others. Having as conceptual theoretical support of this research: others.

2.3.2 Geography Classes

This stage was dedicated to the theoretical construction on the subject, where students involved in the process were based on genesis and morphology, as well as uses, fertility and soil conservation. The students were stimulated to differentiate and identify the horizons in soil profiles and, finally, a primer was made on the soils.

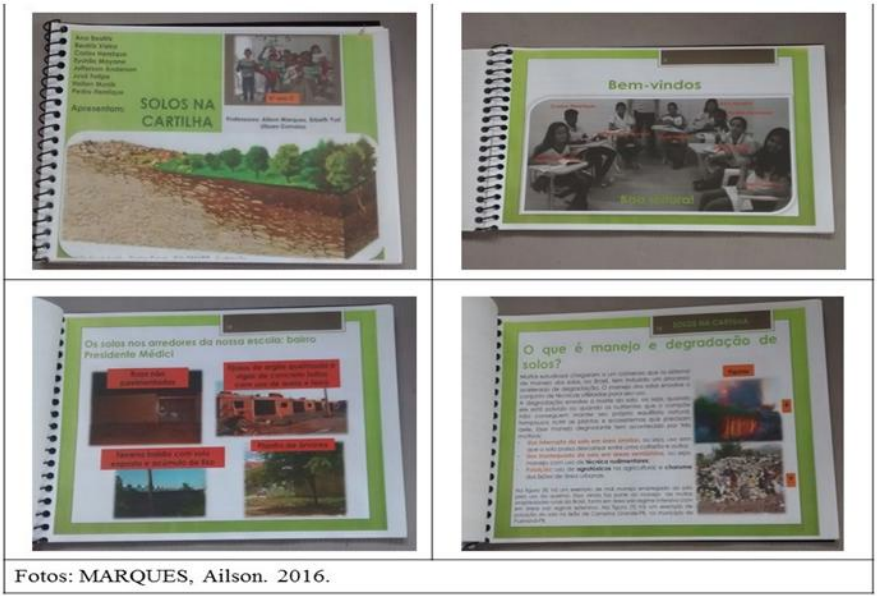
2.3.3 Making the booklet

This stage was dedicated to the choice of content (public internet content under Google's license) and construction of the booklet. All contents were chosen and appreciated by the students, and the final product was supervised by the trainees.

III. RESULTS AND DISCUSSIONS

It is noteworthy that this work is a pioneer in the municipality and in the obligatory stage of the licentiate course in geography of that university. The result of this work corresponded to the development of the book, which, besides contributing to the construction of knowledge about the theme, provided an environment of stimulation, since students perceive themselves as modifying agents and part of nature (Figure 1). It is emphasized that the book is a proposal of didactic material for the teaching of Geography that can be used by other teachers and students at different levels. The main topics covered in the booklet correspond to the following topics: What are solos; How they are inserted in our daily life; How the Entisols are formed, the most typical soil of this region, and the Oxisols, soil of lesser predominance, besides questions of use and management.

Figure 1. Images of the primer.



Fotos: MARQUES, Ailson. 2016.

During the lessons of geography were given content on rocks, genesis, morphology, fertility, uses and soil conservation and relevant themes in environmental education and soil. The relevant themes were chosen according to the use of land in the vicinity of the school. For that, a typical language was used the age group of

the 6th grade students through an attempt to construct didactic knowledge and uses of resources such as booklets, maps, texts and videos. Among them, the textbook "Building the human space" of the author Igor Moreira and the primer of the project in the School of the Federal University of Campina Grande, which was used as support, besides materials of the Program of Extension University Solo in the School Federal University of Paraná.

In sequence, there was a "digital geography" with the use of photographic clippings of the surroundings of the schools, for an identification of the uses of the ground in the surroundings of the school, where there was a debate on the subjects of soils from the analysis of the landscape that involves the dynamics in the context of environmental education.

The clippings were photographed by the students who know the reality, the images that presented the best details were used to compose the booklet. The assembly of the book's idealization, where the concern for the selection of figures, colors, information and photos was chosen in a consensus among all the students involved.

To finalize the proposal the students involved in the process presented the other students of the institution to the primer in a simple sample in the school, bringing together the students of elementary school from an Environmental Education perspective.

The debate about our training as teachers is increasingly expanding, we need to respond to society with more "educated" students and the other, we need to have cognitive, physical, social and economic conditions to ensure the construction of knowledge. There are few teachers who can translate the technical language of geography through a daily didactic transposition.

In this context, this work corroborates with Diniz et al. (2005), the popularization of the pedological knowledge must pass through methodologies that consider the knowledge about soils of the local communities, since it is perceived that the students can understand a concept through several approaches. These methodologies are not contained in the textbooks and each region presents specific pedologies (FALCÃO SOBRINHO, 2007; FALCÃO SOBRINHO and COSTA, 2008).

IV. CONCLUSIONS

- It is understood that the Supervised Internship is the externalization of academic learning outside the university; is the space where graduates develop a cognitive in the face of the construction of knowledge, we face the simple mission of idealizing, fostering and guiding the creation of the book with the theme alone.
- Developing a job in the proposed way corresponded to an important challenge. As for the promotion of the knowledge of physical elements of nature, it was possible to construct a critical view of the students on the subject, going beyond the limits of the school, relating to the context and the social reflection of these elements that interfere in the condition of the individual.
- In this context, the work developed allowed the student body greater interest in the study, since they actively participated in the structuring of the book, becoming the main scientific contribution of this work, which presents itself as an important didactic resource for the exploration of the characteristics present in the semi-arid region.

REFERENCES

[1]. SANTOS, M. and SILVEIRA, M. L., O Brasil: território e sociedade no início do século XXI. (Rio de Janeiro: Record, 2001).
[2]. VENTURI, L.A.B., Praticando a Geografia: técnicas de campo e laboratórioemGeografia e AnáliseAmbiental. (São Paulo: Oficina de Textos. 2005).
[3]. SILVA, C.S.; FALCÃO, C.L.C.; FALCÃO SOBRINHO, J., O ensino do solo no livrodidático de Geografia. Espaço e Tempo. v.2, 2008, n.1, p. 101- 112.
[4]. SPOSITO, M. E. B, Parâmetroscurricularesnacionais para o ensino de geografia: pontos e contrapontos para umaanálise. In: Reformas no mundo da educação: parâmetroscurriculares e geografia. (São Paulo: Contexto, 1999), 19-35.
[5]. PONTUSCHKA, N. N., Interdisciplinaridade: Aproximações e Fazeres. In: AGB, Associação dos GeógrafosBrasileiros. As Transformações no Mundo da Educação. São Paulo: Terra Livre, 1999).
[6]. FELTRAN FILHO, Livrodidático de Geografia: umaanálise dos conteúdos da áreafísica. Sociedade e Natureza. Uberlândia, v. 1, 1996, p. 80-86.
[7]. LIMA, M.R., O solo no ensino fundamental: situações e proposições. (Curitiba: Universidade Federal do Paraná, 2002).
[8]. DINIZ, A. A.; BATISTA, R. B.; SANTOS, R. F., Popularização da taxonomia do solo: Vocabuláriomínimo e aspectossócioeconômicos no contexto do Ensino Fundamental. RevistaBrasileira de Ciência do Solo. Viçosa, v. 29, 2005, p. 309-316.
[9]. FALCÃO SOBRINHO, J., Relevo e Paisagem: propostametodológica. (Sobral: SobralGráfica, 2007).
[10]. FALCÃO SOBRINHO, J. COSTA FALCÃO, C. L., GeografiaFísica: a naturezanapesquisa e no ensino. (Rio de Janeiro: T.mais.oito, 2008).

Msc. Ailson de Lima Marques. "Soil Primer:Soil primer: a proposal of school support product in the semi-arid region of Brazil." International Journal of Humanities and Social Science Invention (IJHSSI) 7.03 (2018): 11-14.