


THE ENVIRONMENTAL THEME IN THE TEXTBOOKS OF THE INTEGRATING PROJECTS OF THE NEW HIGH SCHOOL

A TEMÁTICA AMBIENTAL NOS LIVROS DIDÁTICOS DOS PROJETOS INTEGRADORES DO NOVO ENSINO
EL TEMA AMBIENTAL EN LOS LIBROS DE ENSEÑANZA DE LOS NUEVOS PROYECTOS INTEGRADORES DE LA ESCUELA SECUNDARIA


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ABSTRACT:

This article characterizes the environmental approaches inserted in the textbooks of Object 1 - Integrative Projects of the New Secondary School of basic education of the federal, state and municipal networks in the state of Tocantins. It is a qualitative, exploratory, descriptive field research and as for the method, the work is characterized as a documental study, having as main document of analysis the books of the Project Integrators of the Object 1 of the New High School. Among the results, it is highlighted that, in general, the works analyzed have a structural pattern in terms of the number of projects, themes addressed and the execution phases of each project. In all the works, in one of the projects the theme environment, sustainability is inserted and the projects are worked on in an interdisciplinary way.

KEYWORDS: Environment; Interdisciplinarity; Sustainability; Textbook; New high school.

Introduction

The implementation of the New Secondary School (NEM) began in 2022, bringing a new teaching-learning organization format. The proposal was organized by four Areas of Knowledge: Mathematics and its Technologies, Language and its Technologies, Applied Human and Social Sciences and Natural Sciences and its Technologies and another one of Technical and Professional Training, seeking to develop broad and complex skills and abilities throughout high school (Brasil, 2018).

The New Secondary School suggested a reform in the curriculum reference matrix for students in the 1st, 2nd and 3rd grades of this school stage. Law nº 13.415/2017,

which establishes these changes, is based on greater curricular integration and flexibility and the offer of training itineraries.

In order to understand the situation of the NEM, it is necessary to analyze the transformations in labor relations (international/national) and their impacts on educational policies, including the National Common Curricular Base - BNCC and the reform of Secondary Education. The transformations in the forms of production, the demand for proactive and flexible workers, with the use of new technologies in line with the interest of transnational corporations and global financiers such as the World Bank (WB), the International Monetary Fund (IMF), the Organization for Economic Cooperation and Development (OECD) (Peroni, 2003) demanded the adjustment of society and school to productive demands (neoliberal logic), in the universalization of education, providing everyone with fundamental competence and abilities for the labor market, according to a competence pedagogy (Ramos, 2002).

In the 1990s and 2000s, the role of the State was redefined, in line with neoliberal ideology. In education took effect the enactment of the law of the Guidelines and Bases of National Education (LDB), the National Curriculum Guidelines and the National Curriculum Parameters (PCN), the Fund for the Maintenance and Development of Elementary Education and the Enhancement of Teaching (FUNDEF) (Zoja & Zanardi, 2016). Based on the LDB, the National Curriculum Guidelines (DCN) were instituted, standardizing and guiding the curriculum planning of education systems (Aguar, 2018).

According to Aguiar (2018), groups formed by educational companies and private institutes, groups that defended the non-party school and the group formed by associations and academic entities, competed for the construction of the BNCC in 2015.

In 2016, the interest of private groups aligned with the international agenda, guided by the OECD, led to an intensification of the commodification of education. The OCDE guides States to develop standardized and tailored curriculum to the International Student Assessment Program (PISA), determining the qualities of education and comparing performance between countries (Cury *et al.*, 2018). There was the enactment of the BNCC based on the Pedagogy of competence, in which teaching focuses on an organic and progressive set of essential learning, which students must develop in accordance with the National Education Plan (PNE) and the quality indexed by IBGE indexes (Aguar, 2018).

In 2017, the NEM was approved, which amended the LDB, progressively modifying the minimum annual workload, the curricular structure consisting of 4 areas of knowledge and an optional part. Regarding the change in workload, it was increased from eight hundred to one thousand hours and later, in full, increasing by another 400

hours. Regarding the optional part, the student will choose among the deepening trails offered at the school according to his needs and interest.

The National Textbook Program (PNLD), with the aim of collaborating in the transition to NEM, carried out the implementation of books with interdisciplinary proposals, called Integrator Projects. They are divided into areas of knowledge, however each area has a single book for the three series, with six projects each. On the integrative themes, there are four predefined themes, STEAM (Science, Technology, Engineering, Arts and Mathematics) linked to the BNCC competences of argumentation, knowledge, critical and creative thinking; Youth Protagonism, linked to argumentation competences, cultural repertoire, self-knowledge and self-care; Media education, with argumentation, communication and digital culture skills; and Conflict Mediation linked to argumentation, empathy, cooperation, responsibility and citizenship competences. Mandatory topics need to address at least one cross-cutting contemporary topic.

These themes express concepts and values that are fundamental to democracy and citizenship and correspond to important and urgent issues for today's Brazilian society, present in various forms in everyday life. They are broad enough to translate concerns from across the country, they are issues under debate in today's society (Bovo, 2004).

The textbook is still one of the instruments most used by teachers in the classroom. For Peyneau *et al.* (2022), the book is still one of the greatest and most essential teaching and learning materials when we look at the school context. It is part of the culture and memory of many generations.

Nowadays, in relation to public schools in Brazil, what we see is that the textbook is perhaps the main, if not the only, tool at hand available to the teacher for the development of his class, as for many students, too. It is the only source of literature they have in their daily lives (Peyneau *et al.*, 2022).

According Costa *et al.* (2018), in Brazil, the textbook started to be used in the beginning of the 20th century, following the molds defined in France. And, in the last hundred years, it has become, for many students, the main source of information for the promotion of school learning.

For Baganha and Garcia (2009), the textbook should not be the only resource for the teacher, being able to use magazines of scientific divulgation, internet, museums, laboratories, planetariums, exhibitions and others, with the intention of achieving improvement in the conditions of the process teaching learning.

In addition to the materials used, pedagogical practices and obligatory curricular components, according to the National Curriculum Guidelines for Secondary Education

in line with the BNCC determine the integral formation of the student. This must occur through a life project, research as a pedagogical practice for innovation, inseparability between education and social practice, environmental sustainability, respect for human rights and articulation of knowledge with the historical, economic, social, scientific and environmental context.

The National Environmental Education Policy, sanctioned by Federal Law N. 9795, on April 27, 1999, determines the coherent principles of Environmental Education that must be followed throughout the country. This law was regulated in 2002, by Decree N. 4281, establishing that all students have the right to environmental education, which must be worked on as an essential and permanent component of national education, being present at all levels and modalities of the educational process, in formal and non-formal character (Law No. 9795). One of the purposes of Environmental Education – EA is to look for solutions to environmental problems, which makes it a political practice. Thus, Environmental Education seeks to form conscientious and critical citizens, strengthening citizenship practices. And in this context, it is expected that textbooks, somehow broach the relationship and condition of man with the environment, contributing to Environmental Education.

The textbooks of Object 1 - Integrating Projects of New High School selected to be distributed in public schools of basic education in the state of Tocantins by the State Department of Education in the years 2022-2024 were analyzed characterizing the environmental theme, especially guided by the concepts of environment, sustainability and interdisciplinarity, in the way they are operationalized in the text.

Environment

With different meanings, the word environment has numerous correlations with other terms. The starting point will be from the concept supported by the geographer Marcelo Lopes de Souza, author of the work *Ambientes e territórios: an introduction to Political Ecology*, which develops a critical analysis capable of helping the understanding and interpretation with regard to the environment.

One of the most used terms is “environment”, widely used as a synonym for “natural environment”, in which the human being is extrinsic. According to Souza, “it is not only the environment that will be understood”, on the contrary, “the environment goes far beyond 'first nature', the 'environment': the environment encompasses the earth as a human home (and all other living species as well). , of course) [...]”, the 'second nature' [...] which is nature transformed and incessantly retransformed by social

relations – materially through the work process, but within the framework of a culture (or imaginary) and of power relations” (Souza, 2019a, p. 70).

Another expression used is socio-environmental which, according to the geographer, “[...] acquires a dimension of redundancy”, since “adding the prefix “socio” to the adjective “environmental” [...] is superfluous, and is equivalent to generating a pleonasm: the social dimension is always there [...]” (Souza, 2019a, p. 185).

The environment is always the complex set formed by the interaction of geobiophysical processes, dynamics, features and cycles with social relations (Souza, 2022). The author (2020a, p. 70) points out that “[...] the concept of environment has an evident totalizing potential”, because “[...] the environment encompasses everything, biotic and abiotic factors, living beings, humans and non-humans – or lithosphere, atmosphere, hydrosphere, cryosphere, biosphere and anthroposphere [...]”.

Therefore, the environment is not something that ‘surrounds us’, an envelopment: the environment is also us, historically and culturally located” (Souza, 2019a, p. 79, author’s griffin). The environment is everything with which humanity interacts, when apprehending, giving meaning, re-signifying, and (re)transforming, through social relations. Souza (2020a, p. 70).

Sustainability

According to Boff (2017), there are few words more used today than sustainability and sustainable. For governments, companies, diplomacy and the media. It is a label that is sought to be attached to companies, products and the processes used to create them in order to add value.

According to the ONU (2020), sustainable development is development that meets the needs of present generations without compromising the capacity of future generations to meet their needs and aspirations. This is the definition that has become classic and is present in almost all literature on the theme.

For Boff (2017, p. 107), sustainability is any action aimed at maintaining the energetic, informational, physical-chemical conditions that sustain all beings, especially the living earth, the community of life and human life, aiming at its continuity and still meet the needs of present and future generations, in such a way that the natural capital is maintained and enriched in its capacity for regeneration, reproduction and co-evolution.

A society can only be considered sustainable if it itself, through its work and production, becomes more and more autonomous, manages to overcome acute levels of poverty or reduce it; if your citizens are engaged in work that is meaningful. If you

maintain social security for those who are too young, old or sick and cannot enter the labor market. If social, political and gender equality is continuously sought, and economic inequality is reduced to acceptable levels (Boff, 2017, p. 128).

The author also reinforces that a society is sustainable if its citizens are socially participatory, cultivate a conscious care for the conservation and regeneration of nature and, in this way, can make socio-ecological democracy concrete and continuously improved.

For this reason, according to Boff (2017), it is necessary to balance with the whole, to produce values that feed deep ecology and that help to respect and live in tune with Earth. However, it is important to rescue the original sense of society that was largely lost by the culture of capital, individualism and the centrality given to capital and the market over people.

Sustainability does not happen mechanically. It is the result of an education process through which human beings redefine their relationships with the universe, with the earth, with nature, with society and with themselves, maintaining an ecological balance of respect and love for the earth and the community of life, of solidarity with future generations and the construction of a socio-ecological democracy, sustains Boff (2017, p. 149).

In short, Boff (2017) adds that sustainable development results from conscious and ethical behavior towards the Earth's limited goods and services, maintaining self-control against the productivist and consumerist impulses, to which we are accustomed in our dominant culture.

Interdisciplinarity

Throughout the 20th century, interdisciplinarity emerged in response to a need determined mainly in the fields of human sciences and education: that of overcoming the fragmentation and specialization character of knowledge. With that, it fueled the need for new scientific approaches, without the disciplinary rigidity of knowledge.

Disciplinary knowledge proved incapable of finding solutions to the complex problems that arose in the world. Interdisciplinarity involves the dialogue of scientific knowledge (from different disciplines) and non-scientific knowledge (empirical knowledge of different peoples and cultures that inhabit the planet).

The interdisciplinary approach in education constitutes one of the hypotheses linked to a broader and also very complex conjuncture of changes that involve beyond the area of education, other sectors of social life such as the economy, technology and

politics. It is understood as a major paradigm shift that has been accepted by the scientific community.

In the analysis by Enrique Leff (2001), "interdisciplinarity is an intersubjective practice (between subjects) that produces a series of effects on the application of science knowledge and on the integration of a set of non-scientific knowledge, its effectiveness comes from the specificity of each disciplinary field.

Transversality adapts teaching and learning in various areas of knowledge, when it is worked on some theme, establishing the subjects addressed in the different areas. Therefore, "the term interdisciplinarity has been used as a synonym and metaphor for all interconnection and "collaboration" between different fields of knowledge and expertise within projects that involve both different academic disciplines and non-scientific practices that include institutions and actors different social areas" (Leff, 2000, p. 22).

Thus, interdisciplinarity in the classroom has become one of the main controls for expanding the interaction and development of the study objects required for critical thinking learned by students.

Interdisciplinarity is a concept that has frequently been the subject of discussion by different authors due to its importance in the production and socialization of knowledge in the field of education. And it can be seen from the writings on this topic that in the vast majority there is a consensus on the purpose of interdisciplinarity, which aims to break with traditional patterns that excel in the construction of knowledge in a fragmented way.

The interdisciplinary posture depends on an experience that the traditional school does not offer, the transit between the different ways of acquiring knowledge. This means leaving the usual places, which are thought to be universal, where the look and identification have a single point of view. Although a new posture may seem simple, it actually takes courage and availability to leave the safe harbor of certainties and live with differences and a plurality of points of view. Interdisciplinarity does not replace disciplinarity, but complements it (Philippi, 2000).

Interdisciplinarity must happen in a way that gives meaning to learning. It is essential for the school context to contribute to the construction of learning, with the exercise of breaking disciplinary barriers there is the opportunity for mutual enrichment between disciplines, in addition to understanding and creatively facing complex problems, such as environmental problems.

Methodological procedures

In this work, we analyzed the four works that refer to the knowledge areas of Object 1 of the Integrating Projects for the New High School of publisher FTD, made available to the public schools of the state of Tocantins.

The choice of these works was evidenced through searches carried out in the Regional Directorates of Education - DRE of Tocantins and it was verified that the works of the mentioned collection (FTD) are being used in the three grades of high school in the state of Tocantins.

This work has a qualitative, exploratory and descriptive character. As for the method, the work was characterized as a documental study, having as main documents of analysis the books of the integrative projects of object 1, of the new high school. Thus, the environmental themes present in the works were analyzed through the conception of the environment, according to the concept of Souza (2019), the conception of Sustainability, according to the concept of Boff (2017) and the conception of Interdisciplinarity, according to the concept of Leff (2000). It was also verified whether the works contemplate cross-cutting contemporary themes, active methodologies, suggested didactic resources for the development of projects, proposed activities, dialogue with local issues and general competences of the BNCC.

The analyzes of the books were carried out based on an evaluation paper (Annex 1), adapted from Steinke; Fialho (2017), for the purposes of this research. In which in the column are the verified concepts and in the lines the keys if the work contemplates or not such investigated concept.

Results and discussion

The four volumes of Object 1- Integrator Projects were analyzed, referring to the four areas of knowledge of the works acquired in the PNLD 2021. The curricular components of Portuguese Language, Art, English and Physical Education are exposed in the book Languages and their Technologies, the curricular components of History, Geography, Sociology and Philosophy are referenced in Applied Human and Social Sciences, the curricular components of Biology, Physics and Chemistry are addressed in the exemplary Natural Sciences and its Technologies, finally, the curricular component of Mathematics is seen in the book Mathematics and its Technologies.

The books of the Integrating Projects has as its objective to establish the students' learning process, contributing to the contextualization of curriculum contents, stimulating creativity and interest through interdisciplinarity.

The projects include four integrative themes (STEAM, Youth Protagonism, Media Education and Conflict Mediation) that encourage entrepreneurship, working within themes that contribute to expanding the students' capacity for innovation (Moderna, 2021).

Each work is composed of 6 projects. In the titles of each project, there is an indication of the theme to be worked on and an overview of the project. At the end of each work there are guidelines for the teacher on how to develop them.

In all the works, the integrative themes are shown in the same order. Project 1 explores the integrating theme STEAM, in which it presents a methodology that aims to train students for new technologies and future challenges, integrating knowledge from Science, Technology, Engineering, Art and Mathematics (SEDUC, 2022). Project 2 addresses Youth Protagonism, in which it proposes that the student is at the center of the teaching and learning process, so that knowledge is used for social participation, going beyond the walls of the school (SEDUC, 2022).

Media education is the theme presented in project 3, concerning an approach to educational work on the means, with the means and through the means, for the development of students' autonomy in their verbal and non-verbal communication processes (SEDUC, 2022). And, Conflict Mediation occurs in Project 4, being an education proposal with the potential to transform the lives of students, based on the relationships that students create at school, with colleagues and teachers, with family and society (SEDUC, 2022). Projects 5 and 6 do not have a mandatory integrating theme, so they are free to choose from the authors.

One of the objectives of the integrative projects is to incorporate the Transversal Contemporary Themes (TCT), aiming at the integralization of different knowledge and different areas of knowledge in General Basic Education. In addition to the mandatory themes, the projects address at least one Transversal Contemporary Theme mentioned by the BNCC.

The TCTs are arranged in six big thematic areas, in which they present corresponding sub themes. Being, 1. Citizenship and Civility: Family and Social Life, Traffic Education, Human Rights Education, Child and Adolescent Rights, Aging Process, Respect and Appreciation of the Elderly; 2. Science and Technology; 3. Economy: Work, Financial Education, Fiscal Education; 4. Environment: Environmental Education, Education for Consumption; 5. Multiculturalism: Cultural Diversity, Education for valuing multiculturalism in Brazilian historical and cultural matrices; 6. Health: Health, Food and Nutrition Education.

In view of this, the proposals are carried out with one or more components in an intradisciplinary, interdisciplinary or transdisciplinary way, however, always transversal to the areas of knowledge. At the same time, they contribute to socio-emotional education, with focus on student education and preparation for life in society and for the job market, which has students as protagonists and teachers as advisors.

All projects are organized into three stages: Stage 1: Let's Get Started. This stage seeks to raise awareness and present the theme and proposal of the investigation that will be developed in the project; Stage 2: Know How. In this stage, different information related to the theme and questions proposed in the project are presented; Stage 3: To Finalize. This stage consists of two distinct moments: Final Product and Self-Assessment.

Regarding the BNCC's general competences, presented in the analyzed works, it is noticed that the competences are contemplated right away in the guidelines of each project. Taking the Competencies propositions into account, it is noted that the books are in line with the guidelines of the BNCC document, especially in a teaching-learning process directed towards the exercise of citizenship, based on the ten competencies, supported by pedagogical discussions about the LDB, especially in articles 35-A and 36.

Art. 35-A. The National Common Curriculum Base will define rights and learning objectives of secondary education, according to the guidelines of the National Council of Education, in the following areas of knowledge [...] Art. 36. § 1 The organization of the areas dealt with in the caput and the respective skills and abilities will be carried out in accordance with criteria established in each education system (BRASIL, 1996).

The learning methodology in all works in Object 1 was based on interdisciplinary projects, presenting itself as a didactic strategy aimed at building meaningful knowledge, which aggregates knowledge from different disciplines related to the student's daily life and the world around him. It is up to the teacher and the school, therefore, to organize themselves to obtain the maximum benefits from the Active Methodologies for the training of their students and to the school in order to offer the necessary conditions for this work.

Integrative projects are pedagogical proposals that use the project methodology to integrate, in a challenging and inspiring approach, different curricular components in the teaching and learning process. They favor greater student participation and present possibilities for the development of the general competences of the BNCC, as well as specific competences and skills in the areas of Knowledge.

In this sense, the learning path oriented in the works studied is the Project Methodology as a learning strategy with generative themes, which according to Freire

(2002), it offers a motivating and favorable environment for teaching, research and extension, and may be a strategy that helps students stay in school.

When analyzing the methodology used, it is clear that the project methodology comes from a problem and, according to Barbosa, Gontijo and Santos (2004), stands out for presenting the possibility of training that integrates theory and practice. It consists of projects developed by students, under the orientation of the teacher in one or more disciplines, with the aim of gaining knowledge and developing skills and attitudes (Oliveira, 2006).

Throughout the projects, the works present proposals for individual and collective activities, which work and expand the contents covered. These activities can be adjusted so that the teacher considers the needs and characteristics of the class. At the end of each project, stage 3, there is the elaboration of a final product, referring to the project worked, which can be classified as a culmination of the acquired knowledge.

The resources indicated in the works for the development of the projects were: electronic devices with internet access, books, magazines and newspapers. These were indicated in all projects. As for the physical or digital dictionary, apps, paper, pencils, colored pens, eraser and ruler, radio set, tracing paper, bond sheets, brown paper or cardboard, pens, glue, adhesive tapes and thumbtacks, they appeared suggested in one or another project. But, it is not restricted to these materials only, the teacher is free to use whatever else can contribute to enriching the teaching and learning of the students.

Regarding the dialogue with local issues, the works let it opened to teachers to explore this issue and clarify that it is up to them to verify the possibilities that the school has to work with the different contents. Since teachers have the primordial role in the mediation of knowledge, it is up to them to indicate the direction of the classes, provoking reflection and stimulating the proposition of solutions for the problems presented in the projects.

The work on Languages and their Technologies is made up of the following curricular components: Portuguese Language, Art, English and Physical Education. It is observed that the author explores environmental issues in 3 of the 6 projects in the book. Matters related to the elements of nature (fauna and flora) and landscape (sunset, bridge) were discussed. The form of understanding of the approach is explicit,

The same does not apply exclusively to the environment, but to economic, social and cultural aspects. Readings and activities are proposed that allow understanding this concept and identifying sustainable practices that can be carried out on a daily basis, contributing to a more conscious social performance (Language and its Technologies 2020, p. 285).

According to Souza (2019), the environment is the result of the (re)transformation, meaning and incessant reappropriation of the first nature, through social relations, and necessarily includes human beings, modeled by history and culture.

According to the analysis carried out on the Sustainability theme in that same work, it demonstrated that it discusses transversal themes, articulated with the pedagogy of projects and with the principles of interdisciplinarity.

This concept is only mentioned in project 6: Sustainability: How to reduce environmental impacts through conscious consumption? Which appears in connection with conscious consumption in schools, expanding it to the local community. This project guides, as an essential requirement, the adoption of sustainable practices, providing elements for raising awareness by the greatest number of people, through daily actions, and encourages the responsible use of natural resources, challenging everyone to be agents of transformation of the reality and the world around us (Language and its Technologies, 2020, p. 172).

Another reference on Sustainability in project 6 is when it informs that this term can have numerous meanings according to the context in which it is inserted, but in general it can be said that sustainability consists of actions that prioritize the essential conditions on which they depend life on planet Earth for present and future generations (Boff, 2017).

An important historical milestone highlighted in this work was the United Nations Conference on Environment and Development, held in 1992 in Rio de Janeiro-RJ, which materialized a global agenda for the environment and concluded that it is necessary to add to the term sustainability the economic, social and environmental components, known as pillars of sustainability, so that it can achieve sustainable development (Language and its Technology, 2020, p. 176). The work concludes on this theme by emphasizing that the pillars of Sustainability are reflected in the 17 UN goals of the 2030 agenda for sustainable development.

As for the concept of Interdisciplinarity, the frequency with which it appears in the book and its distribution in the explored contents is minimal, as this word is mentioned only twice in the work. Once in the citation of a supplementary bibliography and once in a proposition of activity that suggests the interdisciplinarity of the other curricular components with the Portuguese language. However, even implicitly, we realized that, in the work on Languages and their Technologies, the objects of study are discussed in an interdisciplinary manner.

Likewise, interdisciplinarity seeks to intertwine the different areas, promoting interconnections that facilitate the understanding of these objects in an integrated way. This perspective is also seen in the National Curriculum Guidelines for Secondary Education (DCNEM), which highlight interdisciplinarity as an integrating axis, as it is defined as a strategy that seeks to unite different disciplines to address a common problem (Philippi JR., 2000). Interdisciplinarity becomes operational in pedagogical practice through the transversality with which the themes are approached, passing through the perspectives of different disciplines.

As for the work on Applied Human and Social Sciences, it articulates with History, Geography, Sociology and Philosophy. According to the analysis carried out in this work, the concept of environment appears in project 1, Sustainability: what actions contribute? emphasizing, the defense of an environment, composed of elements of first and second nature that guarantee human dignity, ensuring deference to ethnic groups and “[...] the appreciation of traditional populations (Mazão & Ferrini, 2020, p. 17)”.

The environment is highlighted again in the work, when it deals with the paths to a sustainable future, recommending “choosing healthy products because they provide balance, well-being and less damage to the environment and concentrated products rather than diluted ones, because they offer several advantages to the environment” consumer and the environment [...]” (Mazão & Ferrini, 2020, p. 27).

The reference to the environment reappears in project 6, which deals with traditional peoples and communities: who are they? By contextualizing that these peoples have a deep relationship with the territory where they live. “The environment determines their survival. [...]. They are culturally differentiated, maintaining specific relationships with the territory and the environment in which they are inserted” (Mazão & Ferrini, 2020, p. 176).

The work Human and Applied Social Sciences allows inferring that the concept of environment has an evident totalizing potential, involving the biotic and abiotic aspects, cultural envelopes and presents through which society is a part, interacts with other components, (re)transforming them, thus being in line with the concept proposed by Souza (2019).

As for the concept of Sustainability, the work presents project 1, Sustainability: what actions contribute? fully with this focus, leading to reflection on proposals for cities or communities that contribute to increasing inclusive and sustainable urbanization and the capacity for participatory, integrated and sustainable planning and management of human settlements. The main reason is a proposal for sustainable action that can contribute to local and global challenges.

In the document *Our Common Future*, from the World Commission on Environment and Development, published in 1987, sustainability is directly related to the urgency of developing mechanisms to meet the human needs of the present without compromising future generations, seeking to make a counterpoint with the reading of Boff, who sees sustainability from a deeper and more critical point of view, questioning paradigmatic and ethical aspects of our way of appropriating and using nature, without which the classic or hegemonic notion of sustainability could not be consolidated.

In project 2, *Slavery: are we free?* The concept of sustainability is mentioned in the context of the 2030 Agenda, it is an action plan that presents universal sustainability goals for the planet. Among the 17 ONU goals that seek to balance the economic, social and environmental dimensions for sustainable development, goal 8 aims to "promote inclusive and sustainable economic growth," [...] (Mazão & Ferrini, 2020, p. 43).

In project 6, *Traditional Peoples and Communities: Who are they?* The concept of sustainability is present through respect for its principles, seeking the survival of present generations in the physical, cultural and economic aspects, as well as ensuring the same possibilities for future generations.

Although the work makes several contextualizations involving the concept of sustainability, the bias revolves around the concern with economic growth, in order to take advantage of the environment, providing a better quality of life for society. In this view, society cannot maintain the energy conditions necessary to sustain life on Earth in such a way that the natural capital is maintained, enriched and with regenerative and reproductive potential. Thus, the concept of sustainability in projects 1 and 2 disagrees with the critical conception of Boff (2017), but agrees with project 6.

With regard to interdisciplinarity, the integrative projects of this work allow the mobilization and articulation of knowledge of the four curricular components of the area of Applied Human and Social Sciences, which are History, Geography, Sociology and Philosophy. As for the articulation with other disciplines, dialogues were perceived with the area of Languages, mainly in the interpretation and reading of texts, and Mathematics when working with research and quantitative data, graphs and infographics. In Leff's analysis (2001), interdisciplinarity is the interaction between two or more different disciplines with intersubjective practice, producing a series of effects in the development of knowledge. Therefore, the interdisciplinarity evidenced in the work Human and Applied Social Sciences is consistent with Leff's vision (2001).

In the work, *Natural Sciences and their Technologies*, which encompasses the curricular components: Biology, Physics and Chemistry, the environmental theme is

portrayed more directly in projects 1, Plastics: why replace them? In which the environmental impacts caused by excessive consumption are portrayed, the incorrect destination given to objects made with these materials and the processes for obtaining the raw materials necessary for their production, (Natural Sciences and Their Technologies, 2020, p. 11); and in project 5, Rainwater: is it possible to use it? Where the availability of fresh water on the planet, the uses of water in different environments and the formation and rainfall regime in Brazil are investigated (Natural Sciences and their Technologies, 2020, p. 139). Since, in both projects, the concept of environment is portrayed as a natural environment, using the word environment, as well as, environment, which also aligns with the idea of first nature, as explained by Souza (2019).

Project 6: "Fashion and consumption: how to practice sustainable actions?" portrays the impact of fashion on the environment on local scales to the global level, and also analyzes the way of life and consumption of the population. From this perspective, according to Souza, the environment, therefore, is not something that 'envelops us', an envelope: the environment is also us, historically and culturally situated (Souza, 2019a, p. 79). In the other projects, the environmental theme appears succinctly, however, as a first nature.

Even in project 6, the concept of sustainability emerges strongly. In which he proposes a critical analysis of the relationship between fashion and consumption, aiming at a more sustainable attitude. Throughout the text, the concept of sustainability emerges as related to the way of interacting with the world and proposes not only to preserve the environment, but also to establish a balance between it and social and economic development (Natural Sciences and Their Technologies, 2020, p. 176).

The integrative projects of this work present interdisciplinarity in their mandatory curricular components, Biology, Physics and Chemistry, and in Other disciplines such as Portuguese, Mathematics, Languages and Human and Social Sciences.

The work Mathematics and its Technologies allows contextualizing and articulating the curricular component Mathematics, from the area of Mathematics and its Technologies, with the other areas of knowledge. The environmental theme appears in project 1, "Water: how to reuse this resource?" Citing that the installation of cisterns to capture rainwater and its use in the school environment allow for collective ecological awareness, environment and maintenance of water resources. This theme also appears in project 6: "healthy eating: how to cultivate what you eat?" by emphasizing that fertilizer is a great allied to help provide nutrients to the soil and ensure better plant development, and that organic fertilizers are preferable, as they do not harm the

environment (Bueno, 2020, p. 187). According to the analysis of environmental design in this work, an environment with totalizing evidence was observed, the result of the (re)transformation, meaning and reappropriation of the first nature, through social relations including human beings, modeled by history and culture, as stated by Souza (2019).

Project 3: "Research results: how are they obtained and disseminated?" reinforces that through the media one has access to information related to the environment, [...]. And that statistical data help to understand phenomena that are present in the environment.

Project 5, "Architecture: how to build sustainably?" leads to an understanding of the importance of architecture, seeking solutions to reduce the impact on the environment. As for the sustainability theme, project 5 comments on the importance of sustainability in architecture, so that buildings are not only aesthetic and functional, but also sustainable from an ecological and economic point of view. In this topic, students learn about examples of sustainable architectural work (Bueno, 2020, p. 276). Thus, the conception of sustainability in this work is not based on the environmental conception and the overcoming of its contradictions, from a paradigmatic and ethical point of view of Boff (2017).

The concept of interdisciplinarity, which guides the projects of Mathematics and its Technologies, can be noticed through the articulation with the areas of Languages and its Technologies and Natural Sciences and its Technologies from a transversal point of view. The curricular components of this area of knowledge are in constant dialogue, that is, there is an integration between them, and even between components from another area, thus agreeing with the vision of Leff (2001).

Final considerations

Knowing the great importance of the textbook as one of the tools for teaching and learning in the classroom, and the expressiveness that this didactic material charges as a facilitator of notions, definitions, concepts and ideas, the main purpose of this work was to characterize the environmental theme, through the concepts of environment, sustainability and interdisciplinarity that support the contents in textbooks.

In general, the works analyzed have a structural pattern in terms of the number of projects, themes addressed and the execution phases of each project. In all the works, in at least one of the projects, the environmental theme is included, with emphasis on discussions on sustainability and the projects are worked on in an interdisciplinary or transversal way.

In integrative projects, cross-cutting contemporary themes are worked on. The methodology adopted was based on interdisciplinary projects and it is up to the teacher and the school to organize themselves to obtain the maximum benefits from the Active Methodologies and other methodologies to complement the training process of their students. Such an initiative will require, however, proper training and work conditions, so that the teacher has the possibility to operationalize according to the necessary transpositions.

The works analyzed portray typical situations in various regions of the country. Considering that the books are used in schools in different parts of Brazil, it is open to the teacher to adapt certain contents to the local reality, in order to facilitate student learning.

The works present proposals for individual and collective activities that can be adjusted so that the teacher considers the needs and characteristics of the class. At the end of each project, there is the elaboration of a final product, referring to the project worked on.

The resources indicated in the works for the development of the projects are suggested at the beginning of the projects. But, bearing in mind that the realities of students are the most varied and the creative methodological repertoire of each teacher is different, it is not restricted only to the materials indicated in the works.

The teacher is free to use whatever else can contribute to the enrichment of their classes and to facilitate teaching and learning for students.

From the results achieved in this research, it is expected that it will lead to other works with new propositions that can allow and add to the advancement of research in relation to this theme, if not, other themes that will add to the improvement of teaching in the country. Considering the recent nature of the new secondary education and, consequently, the format adopted for textbooks aligned with this new proposal.

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RESUMO:

Neste artigo caracterizam-se as abordagens ambientais inseridas nos livros didáticos do Objeto 1 - Projetos Integradores do Novo Ensino Médio da educação básica da rede estadual no estado do Tocantins. É uma pesquisa qualitativa, exploratória, descritiva e quanto ao método, o trabalho se caracteriza como um estudo documental, tendo como documento principal de análise os livros dos Projetos Integradores do Objeto 1 do Novo Ensino Médio. Entre os resultados destaca-se que de forma geral, as obras analisadas possuem um padrão estrutural quanto ao número de projetos, temas abordados e as fases de execução de cada projeto. Em toda as obras, em um dos projetos está inserida a temática ambiental, com destaque para a sustentabilidade e os projetos são trabalhados de forma interdisciplinar. Os livros contemplam a abordagem ambiental conforme orientada pela BNCC, mas que especial atenção deve ser dispensada ao modo como esses livros serão empregados no cotidiano escolar, a fim de que atendam plenamente os seus propósitos.

PALAVRAS-CHAVE: Ambiente; Interdisciplinaridade; Sustentabilidade; Livro didático; Novo ensino médio.

RESUMEN:

En este artículo se caracterizan los enfoques ambientales insertado en los libros didáctico del Objeto. 1 – Proyectos Integradores de la Nueva enseñanza secundaria de la educación básica da red estatal en el estado de Tocantins. Es una encuesta cualitativa exploratória descriptiva y cuanto al método, el trabajo se caracteriza como un estudio documental, teniendo como documento principal de análisis de los libros de los Proyectos Integradores del Objeto 1 de la Nueva enseñanza secundaria. Entre los resultados se destaca que de forma general las obras analizadas poseen un patrón estructural cuánto los números de los proyectos, tópicos tratados y las fases de ejecución de cada proyecto. En todas las obras, en un de los proyectos está insertado la temática ambiental, con énfasis para la sostenibilidad y los proyectos son trabajados de modo interdisciplinar. Los libros contemplam la temática ambiental de acuerdo con la orientación del BNCC, pero que especial atención debe ser renunciada al modo como estos libros serán aplicado en el cotidiano escolar al fin de que atienden totalmente sus propósitos.

PALABRAS CLAVE: Ambiente; Interdisciplinaridad; Sostenibilidad; Libro Didáctico; Nueva Enseñaza. Secundaria.