PRÁTICAS EDUCATIVAS, MEMÓRIAS E ORALIDADES

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Dialogues on the Theme of Medicinal Plants at IFPA – Conceição do Araguaia

ARTICLE

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Abstract
The research analyzed the context of medicinal plants at IFPA – Conceição do Araguaia, investigating the approach to the theme of medicinal plants in the training process in institutional documents, curricula, teaching practices and student participation. Using a qualitative approach, six institutional documents were analyzed, including the PPP, PDC, PPCs and Teaching Regulations, through documentary analysis and semi-structured interviews with teachers and students. The research comprised three stages: pre-analysis, document collection and content analysis. The study categories were identified in the semi-structured interviews: curriculum syllabus, pedagogical didactics, student learning about medicinal plants and the institution's commitment to the subject. The results indicated that the topic of medicinal plants is present in compulsory and optional subjects. However, the institution needs to promote interdisciplinary actions to strengthen the teaching-learning processes on the subject.
Keywords: Academic Context. Pedagogical Practices. Teaching and Learning.

Diálogos sobre a temática de plantas medicinais no IFPA – Conceição do Araguaia

Resumo
A pesquisa analisou o contexto de plantas medicinais no IFPA – Conceição do Araguaia, investigando nos documentos institucionais, nos currículos, nas práticas docentes e na participação discente a abordagem da temática de plantas medicinais no processo formativo. Utilizando uma abordagem qualitativa, seis documentos institucionais foram analisados, incluindo o PPP, PDC, PPCs e Regulamentos Didáticos, por meio de análises documentais e entrevistas semiestruturadas com os docentes e estudantes. A pesquisa compreendeu três etapas: pré-análise, coleta de documentos e análise do conteúdo. As categorias de estudo foram identificadas nas entrevistas semiestruturadas: ementas curriculares, didática pedagógica, aprendizado dos estudantes sobre plantas medicinais e compromisso da instituição sobre a temática. Os resultados indicaram que a temática de plantas medicinais está presente em disciplinas obrigatórias e optativas. No entanto, a instituição precisa promover ações

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interdisciplinares para fortalecer os processos de ensino-aprendizagem sobre a temática.
Palavras-chave: Contexto Acadêmico. Práticas Pedagógicas. Ensino-aprendizagem.

1 Introduction

The use of medicinal plants in Brazil marked an important milestone with the arrival of the Jesuits, who investigated their different forms and uses based on indigenous customs, which were recorded in the form of notes (Santos, 2009). As a key figure in this history, Father José de Anchieta (1534–1597) was one of the first Jesuits to arrive on Brazilian soil. His manuscripts and records mention indigenous customs, the foods consumed by the local population, healing practices, diseases, and descriptions of the local flora and fauna (Madaleno, 2016).

The use of medicinal plants as a therapeutic alternative was influenced by indigenous peoples, African traditions, and the European culture brought by colonizers (Almeida *et al*., 2014). The use of plants or their parts (leaves, stems, roots, fruits, flowers) serves both to cure diseases and for rituals that are part of their culture. Plants are commonly used in their natural form by communities or are placed to dry in the shade, which allows them to be stored for several months. These empirical practices closely resemble the scientific techniques recommended in the literature (Pasa *et al*., 2005).

Over the years, through these manuscripts and empirical observations, humans realized that plants could cause drowsiness, promote relaxation, have a laxative effect, reduce allergic reactions, and contribute to the control and cure of diseases, among other beneficial effects (Lorenzi; Matos, 2002). Gradually, individuals developed a relationship within a context of human-environment interaction, orally transmitting this ethnopharmacological and ethnobotanical knowledge across generations (Cavalcanti; Silva, 2014).

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This knowledge, known as traditional wisdom, is produced by men and women in communities through cognitive systems acquired through observation and practice. These ideas are formulated and passed down from generation to generation or shared among people within the same or different communities. This knowledge plays a crucial role in the production stages of herbal medicines, cultural practices, planting techniques, and the reuse of botanical parts. It is based on empirical knowledge and forms part of the cultural heritage of a community (Mahfoud, 1996).

The origin of traditional wisdom lies in the systematic study of phenomena, the characteristics of the surrounding nature, and the experimentation with plant-based resources (Albuquerque; Andrade, 2002). In many communities, this knowledge represents the only available form of therapy, which also contributes to the discovery of new medicines derived from plant-based active compounds.

The use of plants as herbal medicines by local communities is rooted in family memory systems and beliefs, based on the observation of cause-and-effect relationships. This observational practice reflects an intrinsic coexistence with the plant world, coupled with efforts to investigate the therapeutic properties of plants. Such knowledge, originating from traditional wisdom, has gained prominence, particularly regarding biodiversity, the relationship between humans and plants, and the resources of the biomes in which these communities are embedded (Amorozo; Gély, 1988).

The municipality of Conceição do Araguaia, in the state of Pará, is composed of diverse community groups, including indigenous peoples, caboclos, riverine populations, rubber tappers, *quilombolas*, fishers, small-scale farmers, and extractivists, all of whom possess knowledge about plants and their environment. Within this context, the study seeks to understand how the topic of medicinal plants is being addressed in the academic environment of IFPA (Instituto Federal do Pará – Federal Institute of Pará) – Conceição do Araguaia, as well as how students are engaged with this subject. This will help identify potential gaps in the way this knowledge is integrated into the institution's educational process.

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The research aimed to analyze the context of medicinal plants at IFPA – Conceição do Araguaia, investigating institutional documents, curricula, teaching practices, and student participation to understand how the topic of medicinal plants is incorporated into the educational process.

2 Methodology

The Federal Institute of Education, Science, and Technology of Pará – IFPA, Conceição do Araguaia Campus, is located at Av. Couto Magalhães, No. 1,649, Bairro Universitário, ZIP code: 650.540-000. Currently, a total of eight hundred and fifty-three students are enrolled (IFPA, 2023). The courses involved in this research, which have syllabi and subjects related to the study topic, are Agronomy and the Technical Course in Agriculture Integrated with High School (IFPA, 2019).

The research follows a qualitative approach, which, according to Cellard (2008), favors the observation of the evolution of individuals, groups, concepts, knowledge, practices, among others. Thus, for the data collection, we adopted the following elements: documentary analysis (Table 1) and semi-structured interviews.

For the selection of documents for the documentary analysis, we sought institutional documents related to the research topic, understanding of the context, and correlation with the subject. This method reveals the way of understanding a social fact (Bravo, 1991). The document analysis was carried out from September to November 2023, and the institutional documents analyzed are presented in Table 1.

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Table 1 – Public Documents Analyzed from IFPA – Conceição do Araguaia

Document	Year	Number of Pages
Political and Pedagogical Project of the Conceição do Araguaia Campus (PPP)	2016	120
Campus Development Plan of Conceição do Araguaia (PDC)	2019 - 2023	114
Pedagogical Project of the Integrated Technical Course in Agriculture (PPC)	2020	123
Pedagogical Project of the Bachelor's Degree in Agronomy Course (PPC)	2020-2024	135
Resolution No. 944/2023 - CONSUP/IFPA: Pedagogical and Didactic Regulation of Higher Education at the Federal Institute of Education, Science, and Technology of Pará.	2023	94
Resolution No. 945/2023 - CONSUP/IFPA: Pedagogical and Didactic Regulation of Basic and Professional Education at the Federal Institute of Education, Science, and Technology of Pará.	2023	98

Source: Prepared by the authors (2023).

The purpose of analyzing these documents was to adopt an approach that would evaluate the institution in multiple aspects, as they are also tools used in its internal and external evaluation procedures. Furthermore, the analysis revealed the institutional goals and development over time. This practice allowed us to examine institutional policies, course plans, pedagogical regulations, and academic norms.

The semi-structured interviews were conducted with faculty and students. The selection of faculty participants, referred to as Faculty 1, 2, and 3, was based on an invitation made according to their previous experiences teaching courses related to the theme of this study. Examples include the courses on Medicinal Plants, Family Agriculture and Cooperativism, and Biology II. This stage allowed us to gather reports on their teaching experiences, as well as on the interdisciplinary and pedagogical practices they applied.

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Regarding the student selection, we used two distinct groups of participants. The first group consisted of students who had already taken courses related to the subject in question. The second group included first- and second-year students from the courses who had not yet taken courses on the theme, in order to assess the difference between previously acquired knowledge and their interest in incorporating this theme throughout the course. Student participation was voluntary. In total, 11 students from the Agronomy program (6th semester), 14 students from the Agriculture program (2nd and 3rd years), who had taken courses related to the theme, participated. Additionally, there were incoming students who had not yet taken any course on the subject, comprising 12 students from Agronomy (1st semester). The questionnaires were sent via Google Forms, where we explained the objectives and methodology of the work.

2.1 Research Stages

The research comprised three stages: pre-analysis, document collection, and content analysis. In the first stage, the authenticity and veracity of the public documents from IFPA – Conceição do Araguaia were verified, constituting a process of reading and re-reading according to the research objectives.

In the second stage, the information was screened, the units organized, and a connection was established between the elements, research objectives, and the analyzed collections.

In the third stage, the documents were examined in detail, during which the content was described and analyzed (Calado; Ferreira, 2004). According to Bardin (2016), content analysis in the production of inferences allows the analyst to make interpretations based on the objective and systematic identification present in the texts. This technique seeks logical deductions through selected samples and defined categories.

For this study, based on the semi-structured interviews, we defined the following categories: curriculum syllabi, pedagogical didactics; assessment of student learning on the theme of medicinal plants, and the commitment of IFPA – Conceição do Araguaia to

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the mentioned theme. For the curriculum syllabi category, we conducted a documentary survey between August and October 2024. The objective of this survey was to identify the theoretical courses that addressed the theme either directly or indirectly in the aforementioned PPCs. During this process, we recorded information related to the guiding axis and the workload of each course. This evaluation covered both mandatory and elective course syllabi.

In the pedagogical didactic category, we conducted semi-structured interviews, guided by eleven subjective questions, in August 2024. This stage was carried out with faculty members who taught the Medicinal Plants course in the Agronomy program and Biology in the Integrated Technical Course in Agriculture.

In the category of student learning assessment regarding medicinal plants, conducted in August 2024, we applied a questionnaire through the Google Forms platform, consisting of ten questions, which was intended for students from the Agronomy and Technical High School in Agriculture courses. Among the participants, it is worth noting that three of them are from the riverside community.

The final category brings reflections to this study regarding IFPA – Conceição do Araguaia's commitment to the theme, highlighting whether the management has taken care of the preservation and/or conservation of traditional knowledge. This analysis was observed in questions 8 and 9 of the questionnaire.

The interviewees who provided data were invited to grant formal permission through the signing of the informed consent form (ICF) for the development of the research. This document informed and clarified the research content to the participants, allowing them to make an informed decision about whether to participate in the study. The document serves as legal and moral protection for both the researcher and the participant, where both agree to the conduct to be followed (Fortes, 1998).

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3 Results and Discussion

3.1 Pedagogical Practice in teaching the theme of Medicinal Plants

Teaching didactics not only refers to an ethical practice about oneself but also directly influences the teaching style adopted, shaping strategies that view content as something to be constructed. This power-knowledge exercised by the teacher directs the learning of the individuals involved. This pedagogical perspective implies not only the transmission of knowledge but also the critical guidance of actions, promoting a reflection on human conduct (Rodrigues, 1989). The interviews with the faculty members allowed us to identify specific traits related to the inclusion of the theme of medicinal plants in their lesson plans, which are summarized in Table 2.

Table 2 – Profile of Characteristics of Teaching Practice in the Medicinal Plants Subject

Profile of Characteristics	Teacher 1	Teacher 2	Teacher 3
Field of Education	Biological Sciences	Environmental Engineering	Biology
Subject taught	Medicinal Plants	Medicinal Plants	Kingdom Plantae
Course in which the Subject was taught	Agronomy	Agronomy	Agricultural
Planning of the Subject	Reading texts and articles; Legislation on medicinal plants; Practical class on planting medicinal plants	Interdisciplinary project involving semester disciplines	Topics that are part of the student's reality

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Interdisciplinary Activity on this Topic	Reading texts from different fields of knowledge	Technical visit to agro-producer associations; Greenhouse for cultivating medicinal plants	No.
Was there a survey on the relationship between medicinal plants and traditional communities?	Yes, through traditional knowledge of various ethnic groups	Yes, research associated with the appreciation of popular knowledge, and application of questionnaires with local natural product producers	Yes, during lectures and dialogues
Did the students consider the theme important?	Partially, they do not show interest in the subject	Most of them yes, some do not identify with the topic and will not work in this area	Yes, they associate scientific knowledge with empirical knowledge
Difficulties in Teaching the Subject	Specificity of the subject and getting students' attention on the topic	Involving students with the topic	No.
Pedagogical Strategies	Mapping local medicinal species; family use of phytotherapy	Growing plants in their backyards – living pharmacies; collecting medicinal plants used by students	Practical activities, such as the preparation of herbarium specimens
Opinion on Medicinal Plants vs. Phytotherapeutic use	Uses medicinal plants	Uses medicinal plants and seeks plants from reliable sources for use	Important and mentions natural pharmacies and active principles

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Developed any teaching, research, or extension project?	No	No	No

Source: Prepared by the authors (2023)

The faculty members participating in the research have different academic backgrounds and recognize the importance of the theme of medicinal plants in their classes. Regarding the planning of the course, both the theoretical and practical parts were addressed, adopting an interdisciplinary approach that involved collaboration from other areas of knowledge with combinations of different perspectives and teaching methods. We identified the use of participatory methodologies such as project-based interdisciplinary learning, which sparks students' curiosity, provides theoretical elements, and promotes the development of skills that empower greater autonomy in the teaching process (Berbel, 2011; Libâneo, 1994).

Interdisciplinarity was applied through readings, field visits, and the planting of medicinal plants. These elements provide organizational skills, group task division, and enhance the theme, making knowledge more meaningful and lasting (Camargo, 2023). According to Martínez-Alfaro (1994), the most frequently addressed topics include medicinal plants; domestication and the origin of agriculture; archaeobotany; edible plants; ethnobotanical studies in general; agroforestry systems and backyards; use of the forest; cognitive studies; historical studies and research conducted in markets.

According to Article 62 of the IFPA Teaching Regulations, professional practice is defined as a set of formative activities that provide knowledge experiences and practical development activities. These experiences can occur through interdisciplinary projects, scientific research, field visits, workshops, as well as professional practices conducted in school and non-school environments, such as companies, organizations, associations, and cooperatives (IFPA, 2023).

The relationship between the use of medicinal plants and traditional communities was highlighted through readings and the application of questionnaires to producers of medicinal products in the local market. According to Lajolo (2007), each reader reinterprets

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the history of a text, which allows for an interaction between subject and object, creating opportunities and exchanges of experiences and lived realities. Reading and research create a bond between the inner and outer world, enabling dialogue and connectivity with the theme.

Regarding the relevance of the subject for the students, it is observed that only some show interest in the subject, as it is not an area in which they would work professionally. This scenario reveals a disconnection between the *kosmo-corpus*-praxis in the context of academic training. *Kosmo* represents the tradition and knowledge of local communities, *corpus* refers to the study of sciences, and praxis encompasses the technical application in dynamic and stable environmental systems (Toledo, 2012). This disconnection makes it difficult for students to engage with the theme, highlighting the need to establish goals to awaken their interest and create learning connections with other disciplines and faculty members.

However, pedagogical mediations were carried out to bring students closer to the object of study. This involved activities such as mapping plant species, cultivating and collecting medicinal plants, as well as practical activities such as preparing herbarium specimens. According to Costa (2016), it is essential to use methodologies that integrate popular knowledge with scientific knowledge, reducing the gap between these knowledge fields and allowing interaction in knowledge construction. Popular knowledge is related to how people observe and understand natural phenomena. It is knowledge built through practical experiences passed down through generations (Albuquerque; Andrade, 2002).

The collection and use of medicinal plants is a practice carried out by faculty who use them for therapeutic purposes. The phytotherapeutic approach brings the transversal application of content related to the environment and phytotherapy, contributing to the formation of individuals critical of the overuse of industrialized medicines and the promotion of natural products. According to Hoeffel *et al*. (2011), the use of plants for therapeutic purposes establishes a connection between local knowledge and practices aimed at nature conservation.

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No teaching, research, or extension projects related to the theme were developed by the faculty members participating in the research, which is partly justified by the nature of the course, which is optional in the Agronomy program, as well as by the lack of interest from students and the absence of funding opportunities that would provide research grants. Oliveira (2006) emphasizes that teaching proposals based on projects contribute to the development of theoretical and practical skills and keep students actively involved in the teaching and learning process.

3.2 Motivation and Interest of Agronomy and Agricultural Students: Analysis of Questionnaires and Reflections on Academic Formation

In this study, questionnaires applied to the following groups of students were analyzed: Agronomy (6th semester) and Technical Course in Agricultural Integrated with High School (2nd and 3rd years). Of the 25 questionnaires analyzed, 11 were answered by Agronomy students and 14 by Agricultural students. Based on the responses from Agronomy students, we decided to apply the same questionnaire to 1st semester students to reflect on the need for this study in the early years of academic formation. We received responses from 12 students participating.

The first question concerns the students' participation in classes that addressed the theme of medicinal plants. It was noted that the smallest portion of students did not remember, while the majority claimed to have participated in classes on the topic. However, 1st semester Agronomy students reported that they had not participated in any class on the subject. According to Davis *et al*. (2005), the student's interaction with content requires the insertion of this content into the academic environment so that problematization occurs, which promotes species identification, the appreciation of nature, and the understanding of natural and social elements.

The subjects mentioned by students that facilitated this approach include Biology, Botany, Amazon Studies, Histology, Soil Fertility, Agroecology, and the elective course on Medicinal Plants. It was observed from the responses that some students had not been

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exposed to subjects that addressed the theme. The topic of medicinal plants can serve as an educational tool to promote discussions and raise awareness about biodiversity, biomes, and the environment (Almeida, 2003).

Curricular syllabi should include an interdisciplinary approach, relating the theme to other subjects, such as History (origin of species and traditional knowledge), Geography (space, territory), Chemistry (chemical and biological compounds), Sociology (social and cultural dynamics), and Portuguese (types of knowledge), among others. Applying interdisciplinary principles in classes highlights elements that go beyond fragmented, linear, and decontextualized teaching, enabling a common language across various disciplines (Lavaqui; Batista, 2007).

The fourth question aimed to establish a relationship between the relevance of the content and the students' academic formation. In general, students mentioned:

> Student 5: *Learning about the relationship between plants and health*.
> Student 9: *Understanding how plants can cure*.
> Student 15: *Therapeutic purposes of plants*.
> Student 17: *Knowledge of cultural knowledge and tradition*.
> Student 21: *Guidance on the importance of active ingredients*.
> Student 22: *Production of natural drugs*.
> Student 25: *Knowledge of medicinal herbs*.

The responses revealed that students have knowledge that connects concepts from different disciplines, covering biological, chemical, pharmacological, and social aspects. This finding aligns with what Kovalski and Obara (2013) argue: the content on medicinal plants should be taught in an interconnected way across different fields of knowledge.

Some Agronomy students (6th semester) answered that the theme is not relevant to their academic formation. On the other hand, 1st semester students considered the theme important for linking knowledge among individuals and society, as it contains important elements for academic formation and is a study that has gained prominence with the increasing demand for and use of natural products. A probable justification for the responses from the 6th semester students may be a lack of knowledge or interest in the

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subject. As Caon (2005) argues, the lack of interest in natural sciences is often related to school indiscipline, which manifests as a detachment from decontextualized information or that which has no applicability in students' daily lives, arising from the absence of stimuli in the academic environment or from repetitive stimulation.

Regarding knowledge of the relationship between medicinal plants and traditional communities, it was observed that the vast majority of students are aware of the alignment between natural and social knowledge in this context. The Ministry of Education (MEC) recommends the transversal approach of themes related to communities and traditional knowledge (Brazil, 2009). The incoming class was unable to mention the relationship between medicinal plants and traditional communities, highlighting the need for action-research initiatives aimed at these students.

There is a recognized relationship that was confirmed in the responses related to traditional communities. However, we highlight the fact that students are not familiar with the riverside community of Conceição do Araguaia. This shows a social distancing from communities close to the campus, which could serve as a bridge for knowledge and learning about their way of life. The main threat to traditional knowledge about medicinal plants lies in the changes in political and economic interests in the globalized world, as pointed out by Quinteiro and Moraes (2012).

The seventh question investigates whether the student or anyone in their family uses medicinal plants. It is noted that some students mentioned the use of medicinal plants by their grandparents, which justifies the richness of this knowledge in family ancestry. The use of medicinal plants can be seen in the following responses from some students:

Student 6: Copaíba *oil.*
Student 8: *Mint, chamomile,* boldo*, aloe, lemongrass, rosemary*.
Student 9: *Lemongrass, fennel,* boldo*, guava leaves*.
Student 10: Boldo*, lemongrass, ginger*.
Student 14: *Turmeric, lemongrass*.
Student 16: Andiroba, copaíba.
Student 17: Arnica*, aloe*, cilantro.
Student 22: *Chamomile*.

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As highlighted by Mauli et al. (2007), the availability of allopathic medications has not prevented the growth of those who choose to use medicinal plants as an alternative treatment for certain ailments. The World Health Organization (WHO) currently recognizes the importance of herbal medicine for populations, as its use has shown efficacy.

The students' suggestions on how to improve the approach to medicinal plants during their training process include:

Student 5: *Create a specific subject for the topic*.
Student 7: *Lectures or seminars*.
Student 10: *Medicinal plant nursery*.
Student 13: *Events on the topic*.
Student 16: *Practical classes*.
Student 18: *Research or extension projects*.
Student 19: *Field visits*.
Student 20: *Increase the hours allocated to the curriculum*.
Student 22: *Qualified faculty in the subject*.

In light of these reflections, it is evident that new approaches should be implemented to contextualize the theme in the academic environment, encompassing multiple types of knowledge, such as therapeutic, cultural, ecological, and social. Some of the pedagogical proposals observed in students' responses could be used to enrich the academic curriculum.

This investigative path has established a significant benchmark in studying the theme, indicating that interdisciplinary goals can be achieved within the academic setting, including curricula, syllabi, teaching methods, and teaching-learning processes for the academic community. The research demonstrated that the theme has a holistic perspective, promoting the integration of botanical, cultural, and social knowledge.

3.3 Commitment of IFPA – Conceição do Araguaia to the Preservation of Traditional Knowledge

From the publication in 2006 of the National Policy on Integrative and Complementary Practices (PNPIC) and the National Program on Medicinal Plants and

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Phytotherapies (PNPMF), the responsibility for developing communication, training, and capacity-building strategies related to the use of medicinal plants as phytotherapies rests with the policies and educational and research institutions. It is the responsibility of the National Committee on Medicinal Plants and Phytotherapies (Brasil/PNPIC, 2006, p. 50):

> I - Define criteria, parameters, indicators, and methodologies aimed at evaluating the National Policy on Medicinal Plants and Phytotherapies (PNPMF), with the information generated within the various plans, programs, projects, actions, and activities arising from this National Policy;
> II - Create adequate tools for measuring results for the various aspects of PNPMF;
> III - Evaluate the expansion of therapeutic options for users and ensure access to medicinal plants, phytotherapies, and services related to Phytotherapy in the SUS;
> IV - Monitor initiatives to promote research, technology development, and innovations at various stages of the production chain;
> V - Evaluate issues related to the impact of intersectoral policies on medicinal plants and phytotherapies, such as: sustainable development of production chains, strengthening the pharmaceutical industry, sustainable use of biodiversity, and the fair distribution of benefits derived from access to genetic resources of medicinal plants and associated traditional knowledge;
> VI - Monitor compliance with international commitments made by the country within the framework of PNPMF; and
> VII - Monitor the alignment of the Policy and Program with other national policies (Brasil/PNPIC, 2006, p. 50).

This directive of the PNPIC establishes a direct connection with the eighth and ninth questions of the questionnaire, whose responses reveal that the most of students did not participate in courses related to research, extension, or integrative projects about medicinal plants in the academic field, nor did they attend scientific events on the subject. It is considered important for this study to strengthen the link between academic knowledge and empirical knowledge, promoting an effective dialogue between the know-how of traditional communities and academic institutions.

In addition to scientific research and teaching approaches, the construction of scientific knowledge is intrinsically linked to the initiatives of academic management, represented by the tripod of teaching, research, and extension. In this dynamic, these pillars are equally relevant for the recognition and preservation of traditional knowledge. The active involvement of academia provides direct benefits to the community while

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enriching the practical experience of students, enhancing their knowledge (Nascimento, 2012).

Commitment to traditional knowledge could be demonstrated through scientific projects aimed at an assistance-based approach, facilitating the exchange of knowledge between academia and the community. This would include the application of different teaching methodologies, the consideration of diverse ideological perspectives, the interaction between the institution and the community, the promotion of community visibility, scientific publications in the Amazon region, and the offering of technical training through courses, events, and lectures. These examples of experiences can result from various academic settings (Serrano, 2001; Fraga, 2012).

Thus, from the responses of students in the Agronomy and Technical Course in Agricultural Integrated with High School programs, it was observed that there were no lectures, events, or projects organized by the academic management of the Campus addressing topics related to traditional knowledge and the visibility of riverside communities, which has established an inseparable relationship between academia and the community. This highlights the absence of a reciprocal flow of knowledge, hindering the community's participation in institutional activities and impairing the promotion of interdisciplinary education with an integrative vision that values ethics, citizenship, inclusion, integration, respect, responsibility, and transparency (IFPA, 2019).

4 Final Considerations

Considering the reflections presented throughout this study, we identified the students' interest in enhancing their knowledge of the topic, making it clear that there is a need to explore new approaches for contextualizing the theme of medicinal plants in the academic and community environments. These approaches should involve various forms of knowledge to enrich the academic curriculum while simultaneously strengthening community practices.

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We found that IFPA – Conceição do Araguaia has practices aimed at teaching the topic; however, it has not developed extension projects. Moreover, we highlight that most of the students who participated in the research were unaware of the riverine community. Thus, we identified a gap in the cultural knowledge that this community has regarding the study.

It is possible to design interdisciplinary actions that encompass the curriculum, syllabi, methods, teaching practices, and teaching-learning processes. When knowledge is shared and applied comprehensively and interconnectedly, it can have a significant impact on the professional growth of students, strengthening the bonds between academia and society.

References

ALBUQUERQUE, Ulysses Paulino de; ANDRADE, Laise de Holanda Cavalcante. Uso de recursos vegetais da caatinga: o caso do agreste do estado de Pernambuco (Nordeste do Brasil). **Interciência**, v. 27, n. 7, p. 336-346, 2002.

ALMEIDA, Danielle Sanches; ABDALLA, Frederico Tavares de Mello. Um reino em movimento: o impacto da circulação de plantas no mundo imperial. **História Unisinos**, v. 18, n. 1, p. 183-187, jan/abril 2014.

ALMEIDA, Maria Geralda. Cultura ecológica e biodiversidade. **Revista de Geografia da UFC**, 2(3), 2003. DOI: http://repositorio.bc.ufg.br/handle/ri/21221. Disponível em: https://repositorio.bc.ufg.br/riserver/api/core/bitstreams/46a42077-b628-4b6a-bb0e-4ff33a463046/content. Acesso em: 05 dez. 2023.

AMOROZO, Maria Christina de Mello; GÉLY, Anne. O uso de plantas medicinais por caboclos do baixo Amazonas, Barcarena, PA, Brasil. **Boletim do Museu Paraense Emílio Goeldi**, série Botânica, v. 4, n. 1, p. 47-131, 1988.

BARDIN, Laurence. **Análise de conteúdo**. São Paulo, SP: Edições 70, 2016.

BERBEL, Neusi Aparecida Navas. As metodologias ativas e a promoção da autonomia de estudantes. Semina: **Ciências Sociais e Humanas**, Londrina, v. 32, n. 1, p. 25-40, jan./jun. 2011. DOI: 10.5433/1679-0359.2011v32n1p25. Disponível em: file:///C:/Users/larya/Downloads/salves1,+Gerente+da+revista,+3+Berbel+As+Metodologias+Ativas.pdf. Acesso em: 05 de abr. 2024.

BRASIL. **Resolução CNE/CP N°1 /2021** - Diretrizes Curriculares Nacionais para a Formação de Professores da Educação Básica, em nível superior, curso de licenciatura, de graduação plena. Brasília: MEC, 2021. BRASIL. Disponível em: http://portal.mec.gov.br/index.php?option=com_docman&view=download&alias=167931-rcp001-21&category_slug=janeiro-2021-pdf&Itemid=30192. Acesso em: 05 fev. 2024.

BRASIL. **Base Nacional Comum Curricular**. Brasília: MEC/Secretaria de Educação Básica, 2018. Disponível em: http://portal.mec.gov.br/conselho-nacional-de-educacao/base-nacional-comum-curricular-bncc. Acesso em: 3 set. 2023.

BRASIL. **Ministério da Saúde**. Secretaria de Ciência, Tecnologia e Insumos Estratégicos. Departamento de Assistência Farmacêutica e Insumos Estratégicos. Programa Nacional de Plantas Medicinais e Fitoterápicos/ Ministério da Saúde, Secretaria de Ciência, Tecnologia e Insumos Estratégicos, Departamento de Assistência Farmacêutica e Insumos Estratégicos. – Brasília: Ministério da Saúde, 2009.

BRASIL. **Decreto nº 7.022, de 2 de dezembro de 2009**. Disponível em: https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/Decreto/D7022.htm. Acesso em: 26 jan. 2024.

BRASIL. **Ministério da Saúde**. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Política Nacional de Práticas Integrativas e Complementares no SUS, PNPIC-SUS/ Secretaria de Atenção à Saúde, Departamento de Atenção Básica. Brasília: Ministério da Saúde, 2006.

BRAVO, Restituto Sierra. **Técnicas de investigação social: Teoria e ejercicios**. 7 ed. Ver. Madrid: Paraninfo, 1991.

CALADO, Silvia dos Santos; FERREIRA, Silvia Cristina dos Reis. **Análise de documentos: método de recolha e análise de dados.** 2004. Disponível em: http://www.educ.fc.ul.pt/docentes/ichagas/mi1/analisedocumentos.pdf. Acesso em: 13 dez. 2023.

CAMARGO, Fausto F. **A Sala de Aula Inovadora: Estratégias Pedagógicas para fomentar o aprendizado ativo - Desafios da Educação**. [Minha Biblioteca]. Disponível em: https:// integrada.minhabiblioteca.com.br/#/books/9788584291205/ Acesso em: 02 set. 2023.

CAON, Céres Muniz. **Concepções de professores sobre o ensino e a aprendizagem de ciências e de biologia**. 2005, 94 f. Dissertação. (Mestrado em Educação de Ciências e Matemática). Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre (RS).

Rev. Pemo, Fortaleza, v. 7, e14576, 2025
DOI: https://doi.org/10.47149/pemo.v7.e14576
https://revistas.uece.br/index.php/revpemo
ISSN: 2675-519X

CELLARD, André. A análise documental. In: POUPART, J. et al. **A pesquisa qualitativa: enfoques epistemológicos e metodológicos**. Petrópolis, Vozes, 2008.

COSTA, Walkiria Nádja Oliveira Correia. **Plantas medicinais como potencialidades pedagógicas no ensino de ciências e na educação ambiental**. 2016. 93 f. Dissertação. (Mestrado em Gestão Ambiental). Instituto Federal de Educação, Ciência e Tecnologia de Pernambuco – IFPE, Recife.

DAVIS, Claudia; NUNES, Marina M. R.; NUNES, Cesar A. A. Metacognição e Sucesso Escolar: Articulando Teoria e Prática. **Cadernos de Pesquisa**, v. 35, n. 125, p. 205-230, maio/ago 2005. DOI:10.1590/S0100-15742005000200011. Disponível em: https://www.scielo.br/j/cp/a/7wMdHKjvbtng6wMcBcqMbdC/?format=pdf&lang=pt. Acesso em: 5 de jan. 2024.

FORTES, Paulo Antonio de Carvalho. **Etica e saúde**. 1. ed. São Paulo: Editora Pedagógica Universitária, 1998.

FRAGA, Lais Silveira. **Extensão e Transferência de Conhecimento: as incubadoras tecnológicas de cooperativas populares**. 2012. 242 f. Tese (Doutorado em Política Científica e Tecnológica) - Programa de Pós-Graduação em Política Científica e Tecnológica, Universidade Estadual de Campinas, Campinas.

HOEFEL, João Luiz de Moraes; GONÇALVES, Nayra de Moraes; FADINI, Almerinda Antonia Barbosa. Caminhadas interpretativas e conhecimento popular sobre plantas medicinais como forma de Educação Ambiental. **Revista Brasileira de Ecoturismo**, v.5, n. 1, p, 119-136, jan./abr. 2012. ISNN 1983-9391. Disponível em: https://periodicos.unifesp.br/index.php/ecoturismo/article/view/6309/4014. Acesso em: 7 de jan. 2024.

INSTITUTO FEDERAL DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA DO PARÁ. **Resolução CONSUP/IFPA Nº 944, de 8 de março de 2023**. Regulamento Didático Pedagógico da Educação Superior de Graduação, 2023. Disponível em: https://proen.ifpa.edu.br. Acesso em: 5 de out. 2023.

INSTITUTO FEDERAL DE EDUCAÇÃO CIÊNCIA E TECNOLOGIA DO PARÁ. **Projeto Pedagógico do Curso de Bacharelado em Agronomia**. Conceição do Araguaia - Pará, 2020. Disponível em: https://sigaa.ifpa.edu.br. Acesso em: 20 dez. 2023.

INSTITUTO FEDERAL DE EDUCAÇÃO CIÊNCIA E TECNOLOGIA DO PARÁ. **Plano de Desenvolvimento do Campus (PDC).** Conceição do Araguaia 2019 – 2023. Conceição do Araguaia - Pará, 2019. Disponível em: https://conceicaodoaraguaia.ifpa.edu.br/ultimas-noticias/413-plano-de-desenvolvimento-do-campus-conceicao-do-araguaia-pdc-2019-2023. Acesso em: 18 nov. 2023

Rev. Pemo, Fortaleza, v. 7, e14576, 2025
DOI: https://doi.org/10.47149/pemo.v7.e14576
https://revistas.uece.br/index.php/revpemo
ISSN: 2675-519X

KOVALSKI, Mara Luciane; OBARA, Ana Tiyomi. Estudo da Etnobotânica das plantas medicinais na escola. **Revista Ciênc. Educ**., Bauru, v. 19, n. 4, p. 911-927, 2013. Doi.org/10.1590/S1516-73132013000400009. Disponível em: https://www.scielo.br/j/ciedu/a/mSLYqhWPKbBqT9tDF7kW93C/abstract/?lang=pt#. Acesso em: 20 de out. 2023.

LAJOLO, Marisa. **Do mundo da leitura para a leitura do mundo**. 6. ed. São Paulo: Ática, 2007.

LAVAQUI, Vanderlei; BATISTA, Irinéa de Lourdes. Interdisciplinaridade em ensino de Ciências e de matemática no ensino médio. **Ciência & Educação**, Bauru, v. 13, n. 3, p. 399-420, 2007. DOI:10.1590/S1516-73132007000300009. Disponível em: https://www.scielo.br/j/ciedu/a/RJjxc78XXyctF8RTkrg9xck/?lang=pt. Acesso em: 9 de jan. 2024.

LIBÂNEO, José Carlos. **Didática**. São Paulo: Cortez Editora, 1994.

LORENZI, Harri; MATOS, Francisco José de Abreu. **Plantas medicinais no Brasil: nativas e exóticas cultivadas**. Nova Odessa – SP: Instituto Plantarum de Estudos da Flora, 2002.

MADALENO, I. M. A Flora na Obra de José de Anchieta. In: **Congresso Ibero-Americano em Investigação Qualitativa**, 5., 2016. Anais...Portugal: Universidade de Lisboa, 2016.

MAHFOUD, Miguel. **Folia de Reis**: festa raiz ou experiência religiosa em comunidades da Estação Ecológica Juréia-Itatins na perspectiva da psicologia social fenomenológica. 1996. Tese (Doutorado em Psicologia Social) – Instituto de Psicologia, Universidade de São Paulo, São Paulo, 1996.

MARTÍNEZ-ALFARO, Miguel Angel. Estado actual de las investigaciones etnobotánicas en México. **Boletín de la Sociedad Botánica** de México 55: 67-74, 1994.

MAULI, Márcia Maria; FORTES, Andréa Maria Teixeira; ANTUNES, Fabiano. Cidadania e educação ambiental: plantas medicinais no contexto escolar. **Acta Scientiae**, v. 9, n.2, p. 91-107, jul./dez. 2007. eISSN: 2178-7727. Disponível em: http://www.periodicos.ulbra.br/index.php/acta/article/view/88/8. Acesso em: 08 de fev. 2024.

NASCIMENTO, Ives Romero Tavares. A indissociabilidade entre pesquisa e extensão nas universidades: o caso da ITES/UFBA. **Rev NAU Soc**. 2012; 3(5):41-6. DOI: https://doi.org/10.9771/ns.v3i5.31206. Disponível em: https://periodicos.ufba.br/index.php/nausocial/article/view/31206. Acesso em: 29 nov. 2023.

OLIVEIRA, Cacilda Lages. **Significado e contribuições da afetividade, no contexto da Metodologia de Projetos, na Educação Básica**. 2006. 90 f. Dissertação. (Mestrado em Educação Tecnológica) – Centro Federal de Educação Tecnológica de Minas Gerais, Belo Horizonte - MG.

PASA, Maria Corette; GUARIM NETO, Germano. Garrafadas medicinais de plantas de Mato Grosso (I): Anemopaegma arvense (Vell.) Stellf. e A. glaucum Mart. ex DC. **Biodiversidade**, v. 1, n. 4, p. 28-38, 2005.

QUINTEIRO, Mariana Martins da Costa; MORAES, Moemy Gomes. Medicina Popular em um trecho da Mata Atlântica: a importância da revalorização das práticas medicinais. **Revista Brasileira de Medicina de Família e Comunidade**, 7(1), p.58, 2012. DOI: https://doi.org/10.5712/rbmfc7(1)605. Disponível em: https://rbmfc.org.br/rbmfc/article/view/605. Acesso em: 9 de jul. 2023.

RODRIGUES, Neidson. **Da mistificação da escola a escola necessária**. 3. ed. São Paulo: Cortez, 1989.

SERRANO, Rossana Maria Souto Maior. In: VI Congresso Ibero - Americano de Extensão, p. 209. 2001, São Paulo. **O Fórum Nacional de Pró-Reitores de Extensão das Universidades Públicas e seu Papel.** São Paulo. 2001, p. 209.

TOLEDO, Víctor Manuel. **Etnoecología:** campos de estúdio de los três grandes temas (Kosmo, corpus y práxis) que componem el enfoque etnoecológico. Universidade Nacional Autónoma de México, 2012.

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