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Connecting Psycho-Pedagogy and Environmental Education: Prospecting the Potential of Mutual Collaborations

Jacqueline Aparecida Araújo Amaral

Psycho-pedagogue and teacher at a Municipal School (Kindergarten) of Sorocaba SP Brazil

ORCID: 0000-0002-4666-1467

Vidal Dias da Mota Junior

Professor at the University of Sorocaba (UNISO), Sorocaba SP Brazil

ORCID: 0000-0002-6342-9950

Alexandre Marco da Silva (Corresponding author)

Professor at Department of Environmental Engineering – Institute of Science and Technology of Sorocaba – São Paulo State University (UNESP), Sorocaba SP Brazil

ORCID: 0000-0002-8395-4699 E-mail: alexandre.m.silva@unesp.br

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Abstract

Integrating the knowledge of Psycho-Pedagogy and Environmental Education (EE) is an approach still barely developed. Here we focused on identifying common points between Psycho-Pedagogy and EE. We carried out this study through a bibliographical review, bearing in mind a qualitative method of explanatory nature to indicate theoretical fundamentals and education policies that might be corroborated in the teaching activities associated with EE. We searched for and identified the potential of the theme to be developed in scholarly institutions, as a means of raising consciousness, and social relations with the environment. Focusing on the integration of the two themes, we argue that Psycho-Pedagogy is a discipline that can meaningfully contribute to boosting the comprehension of

environmental issues in the formation of critical and aware citizens. We showed and concluded that the approximation and integration between Psycho-Pedagogy and EE are highly positive, promissory, and comprise a vast field to be explored.

Keywords: Environmental Perception, Environmental Psycho-Pedagogy, Human-environment relationships, Multi-perceptual model, Sustainability teaching for children

Introduction

We are currently experiencing rapid and profound changes across technological, social, economic, and environmental domains. In this fast-paced environment, educators face the dual challenge of not only transmitting cultural and educational knowledge accumulated over centuries but also preparing students for an unpredictable future. To address these challenges, new educational paradigms are emerging, including education for digital media, peace and cooperation, modern health, a new international economic order, intercultural understanding, and human-environment relations (Boca & Saraçh, 2019; Damasceno, 2019).

Environmental issues such as air, water, and soil pollution, deforestation, soil erosion, droughts and floods, wildlife trafficking, and global warming manifest on various scales and significantly impact daily life for people of all ages across the globe (Ramírez & Santana, 2019). The teaching-learning process can engage students with these environmental challenges, allowing them to expand their understanding, recognize local environmental issues, and comprehend the cause-and-effect relationships associated with environmental conservation and degradation. This approach fosters critical, transformative, and emancipatory awareness (Matarezi, 2006; Morrissey Gleeson & Morrissey, 2024).

Understanding environmental problems requires recognizing one's role in these issues through personal behavior and actions, as well as the realization that individuals can contribute to solutions. This understanding intersects with fields such as Psychology and Education (Schild, 2016). The development of environmental awareness and a sense of responsibility can be effectively cultivated in schools, guided by educators. This process extends beyond traditional Pedagogy, incorporating essential psychological elements. Thus, Psycho-Pedagogy emerges as an integrative discipline with valuable insights for achieving these educational goals. However, the role of Psycho-Pedagogy in enhancing Environmental Education remains underexplored, presenting a promising path for research. Successfully integrating these disciplines could enrich educational experience and empower students (Amaral & Silva, 2010; Vidal et al., 2018; Yasvinh, 2020).

Given this context, the objective of this work is to identify the synergies between Psycho-Pedagogy and Environmental Education and to explore how Psycho-pedagogical approaches can enhance and enrich the pedagogical frameworks employed in Environmental Education initiatives.

Materials and Methods

We conducted this study through a bibliographic review, employing a qualitative approach to identifying theoretical foundations and educational strategies that can support teaching practices related to Environmental Education (Silva & Santos Silva, 2022). We adopted a qualitative document research style, recognizing that many of the documents contain words, expressions, and phrases that reinforce the connection between Psycho-Pedagogy and environmental themes. We believe that the organization of the information obtained from this research will facilitate further discussions and analyses of the topics explored here.

Results and Discussions

We presented the results in three subsections. The first provides a conceptual overview of Psycho-Pedagogy. In the second subsection, we describe Environmental Education, emphasizing the relationship between humans and the environment, along with relevant national policies within the Brazilian context. The third subsection discusses the integration of these two fields of knowledge and how they can mutually support each other.

Psycho-Pedagogy: Elements and Approaches

Psycho-Pedagogy encompasses a field of knowledge that intersects education and human health, focusing on human learning and the understanding of both normal and pathological developmental patterns in the learning process. It considers the influence of family, school, and society on development (Peres & Oliveira, 2007).

In this field, experts draw on knowledge from various disciplines, including Pedagogy, Psychology, Psychoanalysis, Medicine, Linguistics, Semiotics, Neuropsychology, Psychophysiology, and Humanistic-existential Philosophy (Mendes, 2006). Psycho-pedagogical techniques and approaches can provide valuable insights into students' organic, cognitive, emotional, and social lives.

Researchers in Psycho-Pedagogy have developed techniques and approaches designed to assist educators and students in addressing challenges within the educational process or enhancing it. The goal is to mitigate learning difficulties, help students manage their frustrations, and promote a comprehensive understanding of the educational process in alignment with the school's mission. When integrating environmental considerations into the learning process, Psycho-Pedagogy can offer significant technical contributions (Mendes, 2006; Pincay et al., 2019).

Psycho-pedagogical approaches also focus on enhancing aspects such as self-esteem, empathy, behavior modification, emotional intelligence, and conflict resolution, all within the framework of prevention and capacity development. These approaches aim to engage with the emotions and feelings of individuals (Barreira and Leiva, 2004). We argue that these methodologies have numerous applications in environmental education.

The intersection of Psycho-Pedagogy and Environmental Education occurs when we recognize that humans are part of nature. As a result of natural or organic evolution, we require a clean, healthy, and harmonious environment throughout all stages of life, as well as an ambient spatially and socially organized, as well as biodiverse (Reigota, 2001; Sato, 2004). Throughout life, individuals must develop an awareness that the environmental quality of their surroundings influences every aspect of their lives, and that their actions have an impact on the environment, for better or worse.

Given that learning influences a citizen's life on personal, interpersonal, and communal levels, Psycho-Pedagogy has the potential to contribute to Environmental Education by providing resources and approaches that include: (i) behavioral strategies to develop sensitivity; (ii)

mechanisms to foster a cause-and-effect understanding; and (iii) techniques to establish ecological habits that individuals perform automatically and unconsciously (Rosa & Profice, 2018; Basegio et al., 2020).

Environmental Education and the relationship with the Brazilian educational system

Environmental Education is a method of education that seeks to instill values and responsibilities while providing training for socio-environmental citizenship (Cruz & Bechtluff, 2017). According to Article 1 of Brazilian Federal Law 9.795 of 1999, which established the Brazilian National Environmental Education Policy: "Environmental education constitutes the processes through which individuals and communities build social values, knowledge, skills, attitudes, and competencies aimed at conserving the environment, an asset for common use by the people, essential to a healthy quality of life, and its sustainability" (Brasil, 1999).

The Brazilian educational system comprises five levels: A. basic education, which includes early childhood education, elementary schools, and high schools (technical high schools are included here); B. higher education; C. special education; D. professional education; and E. youth and adult education - aimed at young and adult people who abandoned or dropped out of formal education (Brasil, 1996, 2018). Environmental education is a transversal dimension that should be integrated across all five recognized levels. This increasingly transformative approach emphasizes the responsibility of individuals as a key objective in promoting sustainable development (Piccinini & Andrade, 2018). It represents an intentional social practice aimed at enriching individual development with a stronger social consciousness in relation to nature and other human beings, thereby enhancing human activities through the practice of environmental ethics (Brasil, 2012).

In Brazil, the National Curricular Parameters (NCP) constitute a set of documents that serve as reference designed to help educators standardize fundamental aspects of each discipline. These guidelines provide resources for teachers to consult and discuss various methods to improve teaching and adapt school curricula. The NCP fosters collaboration among teachers from different disciplines, allowing for discussion about curriculum proposals and teaching strategies, ultimately promoting quality education for students. The NCPs related to environmental education were published between 1997 and 1999 (Brasil, 1997; Branco et al., 2018), emphasizing the importance of considering the environmental dimension as a transversal theme.

The NCPs also include information about core subjects and five cross-cutting themes: Environment, Health, Ethics, Cultural Plurality, and Sexual Orientation, leaving it to schools to adapt the NCPs according to their specific contexts. These subjects intersect environmental education with its essential interdisciplinarity concerning environmental issues. The NCPs are intended to be integrated into all subjects, aiming to ensure that environmental education is a consistent presence in the lives of children and young people (Brasil, 1997).

The Brazilian National Common Curricular Base (BNCC) is a normative document that outlines the essential learning that must be developed by students in basic education. It ensures that students have their learning rights upheld and that their development aligns with the provisions of the National Education Plan (PNE) (Branco et al., 2018; Brasil, 1996).

The BNCC, as approved in December 2017 (the most current version), serves as the framework for the National Council of Education regarding Basic Education, which encompasses Early Childhood and Elementary Education. The homologation process is supported by three key documents: the Approved Opinion CNE/CP nº 15/2017, approved on December 15, 2017; CNE/CP Resolution No. 2, dated December 22, 2017, which established and guides the implementation of the National Common Curricular Base; and the document "BNCC – Education is the Basis." These processes are mandated and substantiated across various stages and modalities within the scope of basic education (Behrend et al., 2018; Oliveira & Neiman, 2020).

Complementarily, the Brazilian National Environmental Education Policies, established in 2002, outline a set of formal and informal procedures that reflect power dynamics and aim for the peaceful resolution of conflicts, fostering improvements for the common good. The Environmental Education Policy (Law 9795/99) accurately reflects Brazilian social conditions, serving as an ideological tool for societal conservation.

The primary goal of addressing environmental themes is to cultivate conscious citizens who may engage with socio-environmental realities in a way that promotes the well-being of society, both locally and globally (Brasil, 1997). This approach fosters a connection between humans and nature, encouraging pro-environmental attitudes (Basegio et al., 2018; Li et al., 2024). However, Environmental Education, like education more broadly, still faces challenges in effecting meaningful changes in human behavior toward the environment (Dias, 2004; Jukes et al., 2022; Sato, 2004).

Environmental Education can inspire individuals to change the present and shape the future. This can be achieved by enriching attitudes and behaviors, promoting a sense of responsibility for one's actions, and encouraging consideration for future generations, in line with sustainable development principles (Carvalho, 2014; Nunes, 2007). Effective Environmental Education can transform habits and develop citizens who are more aware of their actions, empowering them to become advocates for environmental preservation. In this context, the intersection of Environmental Education and Psycho-Pedagogy positions schools as spaces for inquiry, dialogue, challenge, discovery, and the affirmation of ethical and civic values (Damasceno, 2019; Gilioli, 2019).

An educational system founded in values and principles nurtures citizenship and encourages students to translate their school-based knowledge into actions that extend beyond the classroom, positioning them as proactive participants in their communities (Li et al., 2024; Santos et al., 2014). Schools that integrate Environmental Education should engage both students and teachers in promoting values that foster harmonious coexistence with the

environment and all species on our planet, encouraging children to become active agents in cultivating citizenship within the school (Rosa & Profice, 2018; Santos & Mutim, 2020).

Integrating the Two Fields

When Environmental Education and Psycho-Pedagogy are combined, they provide an integrated understanding of the world, enhancing emotional intelligence and promoting social inclusion. Together, these fields can implement activities for students of all ages, both in classrooms and outdoor settings, fostering self-confidence and establishing habits of environmental awareness (Guerrero et al., 2022; Mendes, 2006; Pincay et al., 2019).

Key considerations include: (i) Understanding the learning process—whether in or outside of school—requires acknowledging the influence of physical, emotional, psychological, pedagogical, social, and cultural factors (Scoz, 1994); (ii) Psycho-Pedagogy seeks to enhance awareness of learning processes in their emotional and cognitive dimensions, aiming to empower individual, social, and cultural growth (Guerrero et al., 2022).

Initiatives across various pedagogical sectors, particularly in Psycho-Pedagogy, focused on educating communities about environmental issues, are crucial for developing citizenship and social responsibility (Badoi-Hammami & Colareza, 2023; Reigota, 2001). Thus, Psycho-pedagogues and Environmental Educators share a common goal: to foster learning that transforms perceptions, thoughts, and feelings (Calazans et al., 2018; Damasceno, 2019).

Adults often struggle to change entrenched beliefs due to their cultural histories and experiences (Darder et al., 2023, Tuan, 1980). These experiences are essential for understanding human interaction with the environment (Gilioli, 2019). In contrast, children are more adaptable and perceptive, often appreciating the subtleties of color and harmony in their surroundings. They view landscapes both artistically and as vital forces, unburdened by preconceived notions and ready to embrace the world (Tuan, 1980).

Models integrating Psycho-Pedagogy and Environmental Education remain limited. One promising approach is the multi-perceptual model proposed by Boca & Saraçh (2019), originally designed for university settings. This model can be adapted for elementary education, aiming to equip students with a balanced understanding of environmental dimensions and empower them to recognize and prevent harmful actions against the environment (Fig. 1).

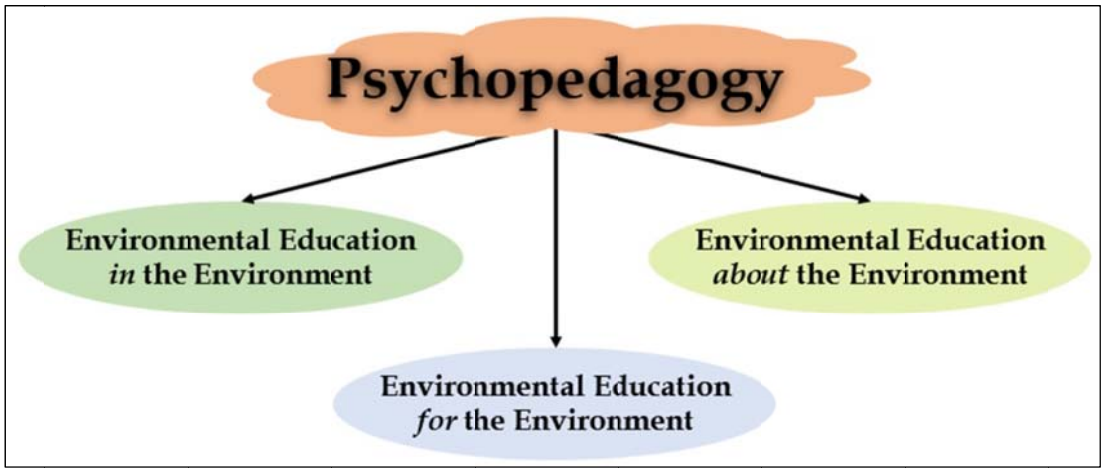

Figure 1. Potential Collaborations of Psycho-Pedagogy to Enhance Teaching-Learning Relationships within the Person-Environment Context. This diagram is an elaboration inspired by the model proposed by Boca & Saraçh (2019)

Environmental Education in the Environment: Educational institutions can adapt their curricula to foster a passion for environmental education among students. This can be achieved through hands-on experiences in nature, such as skills training in laboratories and practical exercises. For example, students can learn about plants and the seasonal influences on environmental attitudes and behaviors. Activities like park and river clean-ups, removing litter from tourist paths, and recycling initiatives are practical and impactful ways to engage students.

Environmental Education for the Environment: Schools should be encouraged to implement environmental education in various ways, utilizing local resources and contexts. Institutions that are provided with gardens, chicken coops, or proximity to parks and water courses have the potential to instigate students to take meaningful actions. Students should be motivated to create and maintain their own learning environments at school, where they spend most of their time. This includes harnessing renewable energy sources, such as solar and wind energy. Additionally, students can be encouraged to articulate their opinions, devise solutions for environmental challenges, engage critically with current issues, and find solutions in real-life scenarios.

Environmental Education about the Environment: A valuable strategy is to stimulate detailed discussions that clarify, critique, and compare attitudes toward environmental management, conservation and protection. Presenting case studies relevant to the local area can enhance and invigorate the school routine and the roles of both educators and students (Amaral & Silva, 2010; Vidal et al., 2018). Employing psycho-pedagogical approaches in environmental education allows for a focus on individuals or groups, making the learning process more personalized and impactful.

Utilizing psycho-pedagogical approaches in environmental education encourages students to engage with social issues critically, promoting a vision of socio-environmental justice and equality—key elements that are often lacking in the current Brazilian government's environmental education policy (Silva & Loureiro, 2020), empowering citizens to recognize their rights and responsibilities (Reigota, 2001; Sella et al., 2023).

Bearing in mind the model outlined above, and the psychological elements involved, we elected some present psycho-pedagogical intervention techniques focused on environmental themes (Table 1).

In this context, even students with psychological disorders can be included in group activities and reach positive outcomes. For example, Damasceno (2019) found that positive experiences with nature enhance the well-being of children with attention deficit hyperactivity disorder (ADHD), providing them with meaningful experiences that can positively impact their development. According to Damasceno (2019), children with ADHD often require a more sensitive and supportive approach from both family and school.

Table 1. Some psycho-pedagogical intervention techniques and their respective objectives

Technique	*Goals*
Symbol games or trail games: produced by them with cardboard and old magazines, glue, and scissors.	Stimulate student concentration, in addition to instructing environmental problems (for example, the trail can be a river, where various ecological aspects are presented and a river and problems associated with its exploitation, or even an urban street and solid waste problems, excessive noise, afforestation, among others).
Questions and Answers Game: Develop cards with pictures related to the theme, starting from recycled materials. Environment theme.	Stimulate the student's understanding of Environmental Education, and there may be awards for responses (Calazans et al., 2018).
Workshops regarding Reducing, Recycling, and Reusing. Ex: With magazines, pet bottles, and everything that is found in the trash, and that is useful for transformation.	Making toys: the objective is to stimulate creativity and make an exhibition for the community.
Educational videos, with subsequent discussion.	Watch the video and hold a conversation on the topic and see the degree of understanding about the debate. Make posters with drawings they produce on the theme and put them on panels outside the room for everyone to see.
Promote visits to parks and conservation units.	As exposed by Gilioli (2019), it aims to explore the environment in terms of its structure (physical and biotic environment). Show the multiple values, qualities, and benefits of a conserved environment, such as fresh air, silence, the sound of water (rivers, rapids, when available), the sound of the wind, and animals. Show local biodiversity. Comment about the importance of environmental conservation and the importance of respecting other species.
Comparative visits to a clean and degraded stream.	Just show and discuss comparative aspects between the two environments. Collect water samples for visual and olfactory comparison (no need for physical and/or chemical analysis). According to the age group, present the concept of the watershed (Rodrigues & Palheta, 2019).
Formation of a vegetable garden and /or also, at mealtimes.	Show the existing relationships between the food that is being produced or served and the soil and/or even the issue of the garbage we produce because of some food (Santos & Mutim, 2020).

Final Remarks

We contend that Psycho-Pedagogy can significantly advance the inclusion of environmental issues in cultivating critical and aware citizens. It offers valuable strategies for enhancing perception, understanding cause and effect, and fostering changes in children's attitudes and behaviors, enabling them to contribute to a more organized, cleaner, and ethical world that respects all living beings.

The integration of Psycho-Pedagogy with Environmental Education remains a largely unexplored and promising field. Within Brazil's three governmental spheres responsible for educational legislation and execution, there appears to be no formal incorporation of psycho-pedagogical knowledge and methods in environmental education. However, Article 5, Item I of Law 9.795/1999 mentions "psychological aspects" as crucial for understanding environmental integration, aligning with the fundamental objectives of Environmental Education (Brasil, 1999).

Nowadays (in 2025), only a minority of schools in Brazil are equipped for Environmental Education in terms of professional training, infrastructure, and educational materials. This text aims to contribute to accelerating improvements in educational institutions regarding environmental awareness among educators, students, and the broader school community—including administration, cleaning staff, security, and parents.

It is essential to motivate teachers by demonstrating that they can effectively develop topics related to the environment. Educators can engage children and young people with present environmental challenges and highlight how the environment impacts our health, particularly through food. These themes resonate widely and are integral to the approach discussed here.

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The authors declare that:

1. There is no conflict of interest.

2. Artificial Intelligence was used in the process of identifying errors and improving the writing (English grammar).

3. All research was conducted manually and by human means.

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References

Amaral JAA & Silva A. M. (2010). Ajustes de metodologia de ensino para atividades de Educação Ambiental considerando a unidade espacial Bacia Hidrográfica. *Revista de Estudos Ambientais, 12*(1), 6-14. https://doi.org/10.7867/1983-1501.2010v12n1p6-14

Badoi-Hammami M & Colareza CC. (2023). Exploring the power of Psycho-Pedagogy: integrating psychology, education, and student development for effective learning and academic success. *Journal Plus Education, 33,* 263-277. https://doi.org/10.24250/jpe/SI/2023/MBH/CCC/

Barreira JB & Leiva AEL. (2004). Técnicas psicopedagógicas asertivas aplicadas por maestros de educación primaria. Universidad de San Carlos de Guatemala. Informe final de investigación presentado al honorable consejo directivo de la Escuela de Ciencias Psicológicas, Guatemala, 67 p. https://psicologia.usac.glifos.net/opac/record/5376?&mode=advanced&query=@field1=encabezamiento@value1=INTELIGENCIA%20EMOCIONAL&recnum=54

Basegio AC, Conte E, Bersch ÂAS & Yunes MAM. (2018). Educação Ambiental e construção de aprendizagens: um olhar bioecológico. *TEXTURA-Revista de Educação e Letras, 20*(42), 177-198. https://doi.org/10.17648/textura-2358-0801-20-42-2784

Behrend DM, Silva Cousin C & Carmo Galiazzi M. (2018). Base Nacional Comum Curricular: o que se mostra de referência à educação ambiental?. *Ambiente & Educação, 23*(2) 74-89. https://doi.org/10.14295/ambeduc.v23i2.8425

Boca GD & Saraçh S. (2019). Environmental education and student's perception, for sustainability. *Sustainability, 11*(6), 1553(18 p.). https://doi.org/10.3390/su11061553

Branco EP, Royer MR & de Godoi Branco AB. (2018). A abordagem da Educação Ambiental nos PCNs, nas DCNs e na BNCC. *Nuances: estudos sobre Educação, 29*(1), 185-203. https://doi.org/10.32930/nuances.v29i1.5526

BRASIL. Ministério da Educação. (2018). Diretrizes Curriculares Nacionais para a Educação Ambiental. *Brasília: Ministério da Educação /Conselho Nacional de Educação,* 2012. http://portal.mec.gov.br/dmdocuments/rcp002_12.pdf

BRASIL. Ministério da Educação. (1996). Lei de Diretrizes e Bases da Educação Nacional, n.º 9.394, de 20 de dezembro de 1996. Brasília, DF: MEC, 1996. http://www.planalto.gov.br/Ccivil_03/leis/L9394.htm

BRASIL. Ministério da Educação. (1999). Lei nº 9.795, de 27 de abril de 1999. Dispõe sobre a educação ambiental, institui a Política Nacional de Educação Ambiental. Diário Oficial da República Federativa do Brasil. https://www.planalto.gov.br/ccivil_03/leis/l9795.htm

BRASIL. Senado Federal. (2018). Lei de diretrizes e bases da educação nacional. Edition updated until March 2017.

https://www2.camara.leg.br/legin/fed/lei/2017/lei-13415-16-fevereiro-2017-784336-publicacaooriginal-152003-pl.html

Calazans DR, Oliveira MA & Silva YKO. (2018). O uso do jogo de tabuleiro como ferramenta de Educação Ambiental na Educação Básica. *Diversitas Journal, 3*(3), 780-792. https://doi.org/10.17648/diversitas-journal-v3i3.662

Carvalho MGM. (2014). Análise da transversalidade da educação ambiental na fase II do ensino fundamental da rede pública municipal e estadual de Goiânia-GO. *Revista Eletrônica de Educação da Faculdade Araguaia, 5*(5), 1-13. https://sipe.uniaraguaia.edu.br/index.php/REVISTAUNIARAGUAIA/article/view/184

Cruz JSF & Bechtluff MP. (2017). Práticas sobre a Educação Ambiental nos anos iniciais do Ensino Fundamental. *SYNTHESIS - Revista Digital FAPAM, 8*(8), 221-234. https://periodicos.fapam.edu.br/index.php/synthesis/article/download/168/162/510

Damasceno MMS. (2019). Educação ambiental vivencial e o desenvolvimento cognitivo e socioafetivo de crianças com TDAH. Thesis (Doctorate in Environment and Development - Area of Concentration: Space and Socio-Environmental Problems), Universidade do Vale do Taquari, Lajeado – RS, Brazil. https://bdtd.ibict.br/vufind/Record/UVAT_997475fe450ee3eb1d421a1e892f253e

Darder A, Hernandez K, Lam KD & Baltodano M. (2017). Critical pedagogy: An introduction. *In The critical pedagogy reader* – 4th Edition (pp. 1-30). Routledge. https://doi.org/10.4324/9781003286080

Dias GF. (2004). *Educação ambiental: princípios e práticas*. 9th edition. Gaia, São Paulo, Brazil.

Gilioli LA. (2019). Educação Ambiental: análise de percepções e possíveis parcerias entre escolas e Unidades de Conservação. Dissertation (Master in Environment and Water Resources. Area of Concentration: Environment and Water Resources) – Instituto de Recursos Naturais, Universidade Federal de Itajubá, Itajubá – MG, Brazil. https://repositorio.unifei.edu.br/jspui/bitstream/123456789/1964/1/dissertacao_2019073.pdf

Guerrero JAA, Moreira JAM, Zambrano MJZ, Briones MFB & Quijije NKA. (2022) .Psychopedagogy and its contribution to the emotional state of students. *International Research Journal of Management IT and Social Sciences, 9*(3), 365-374. https://doi.org/10.21744/irjmis.v9n3.2087

Jukes S, Stewart A & Morse M. (2022). Following lines in the landscape: Playing with a posthuman pedagogy in outdoor environmental education. *Australian Journal of Environmental Education, 38*(3-4), 345-360. https://doi.org/10.1017/aee.2021.18

Li Y, Zhao Y, Huang Q, Deng J, Deng X & Li J. (2024). Empathy with nature promotes pro-environmental attitudes in preschool children. *PsyCh Journal, 13*, 598-607. https://doi.org/10.1002/pchj.735

Matarezi J. (2006). Despertando os sentidos da educação ambiental. *Educar em Revista, 27,* 181-199. https://doi.org/10.1590/S0104-40602006000100012

Mendes MH. (2006). Psicopedagogia: uma identidade em construção. *Construção Psicopedagógica, 14*(11), 5p. http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1415-69542006000100003&lng=pt&tlng=pt

Morrissey Gleeson E & Morrissey J. (2024). Towards a fit-for-purpose climate change education: a systematic literature review identifying core principles and potential barriers. *Environmental Education Research*, 1-54. https://doi.org/10.1080/13504622.2024.2416549

Nunes ERM. (2007). *A formação da consciência ecológica através da educação ambiental. cartilha de licenciamento ambiental. Brazilian Institute for the Environment and Renewable Resources.* 2nd edition. Brasília, Brazil.

Oliveira L & Neiman Z. (2020). Educação Ambiental no Âmbito Escolar: Análise do Processo de Elaboração e Aprovação da Base Nacional Comum Curricular (BNCC). *Revista Brasileira de Educação Ambiental, 15*(3), 36-52. https://doi.org/10.34024/revbea.2020.v15.10474

Peres MR & Oliveira, MHMA. (2007). Psicopedagogia: Limites e Possibilidades a partir de relatos de profissionais. *Ciências & Cognição*, *12,* 115-133. http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1806-58212007000300012&lng=pt&tlng=pt

Piccinini CL & Andrade MCP. (2018). O ensino de Ciências da Natureza nas versões da Base Nacional Comum Curricular, mudanças, disputas e ofensiva liberal-conservadora. *Revista de Ensino de Biologia da SBEnBio, 11*(2), 34-50. https://orcid.org/0000-0002-6796-2330

Pincay GZ, Valdivieso PAV, Pilligua PYV & Cedeño GMB. (2019). Los profesionales de la psicopedagogía en la atención a la diversidad como agente educativo. *Revista Arbitrada Interdisciplinaria de Ciencias de la Salud, 3*(6), 41-57. http://dx.doi.org/10.35381/s.v.v3i6.304

Ramírez F & Santana J. (2019). Environmental Education and Biodiversity Conservation. In: Ramírez F and Santana J (Org.). *Environmental Education and Ecotourism.* Basel, Springer Briefs in Environmental Sciences. https://doi.org/10.1007/978-3-030-01968-6_2

Raymundo MHA, Branco EA, Biasoli S, Sorrentino M & Maranhão R. (2017). Indicadores de monitoramento e avaliação de projetos e políticas públicas de Educação Ambiental no Brasil. *AmbientalMente Sustentable: Revista Científica Galego-Lusófona de Educación Ambiental*, *23*(1), 25-39. http://dx.doi.org/10.17979/ams.2017.23-24.0.3364

Reigota M. (2001). *O que é Educação Ambiental. Coleção Primeiros Passos.* Editor Brasiliense, São Paulo, Brazil.

Rodrigues FCC & Palheta RTM. (2019). Educação ambiental e interdisciplinaridade: a importância da água na vida dos ribeirinhos da Ilha das Onças (Furo Conceição), Barcarena, Pará, Brasil. *Ambiente & Educação, 24*(2), 310-330. https://doi.org/10.14295/ambeduc.v24i2.8408

Rosa CD & Profice CC. (2018). Que tipo de educação ambiental e para quem? Fatores associados a atitudes e comportamentos ambientais. *Revista Brasileira de Educação Ambiental, 13*(1), 111-125. https://doi.org/10.34024/revbea.2018.v13.2530

Santos STS & Mutim ALB. (2020). Educação Ambiental e a educação alimentar: os saberes no campo das práticas educativas. *Revista Brasileira de Educação Ambiental, 15*(5), 109-123. https://doi.org/10.34024/revbea.2020.v15.10284

Santos WLP Carvalho LM & Levinson R. (2014). A dimensão política da educação ambiental em investigações de revistas brasileiras de ensino de ciências. *Revista Brasileira de Pesquisa em Educação em Ciências, 14*(2), 199-213. https://periodicos.ufmg.br/index.php/rbpec/article/view/4361

Sato M. (2004). *Educação Ambiental.* Rima Editor, São Carlos, São Paulo, Brazil.

Schild R. (2016). Environmental citizenship: What can political theory contribute to environmental education practice?. *The Journal of Environmental Education, 47*(1), 19-34. https://doi.org/10.1080/00958964.2015.1092417

Scoz B. (1994). *Psicopedagogia e realidade escolar: o problema escolar e aprendizagem.* 6th edition, Vozes Editor Rio de Janeiro, Brazil.

Sella E, Bolognesi M, Bergamini E, Mason L & Pazzaglia F. (2023). Psychological benefits of attending forest school for preschool children: A systematic review. *Educational Psychology Review, 35*(1), 29. https://doi.org/10.1007/s10648-023-09750-4

Silva JBC & Santos Silva MV. (2022). O Papel da Educação Ambiental em época de pandemia e pós-pandemia. *Revista Brasileira de Educação Ambiental, 17*(6), 478-497. https://scholar.archive.org/work/6dyfphomsvd3lhkkmnvdq35mgy/access/wayback/https://periodicos.unifesp.br/index.php/revbea/article/download/13968/10255

Silva, S. N. & Loureiro, C. F. B. (2020). As vozes de professores-pesquisadores do campo da educação ambiental sobre a Base Nacional Comum Curricular (BNCC): educação infantil ao ensino fundamental. *Ciência & Educação, Bauru, 26*, e20004. https://doi.org/10.1590/1516-731320200004

Tuan YF. (1980). *Topofilia - um estudo da percepção, atitudes e valores do meio ambiente.* Editor Difel, São Paulo, São Paulo, Brazil.

Vidal DB, Nogueira MT & Campos TS. (2018). Um caso de sucesso: metodologias que potencializam a Educação Ambiental no ensino fundamental. *Revista Brasileira de Educação Ambiental, 13*(1), 66-78. https://doi.org/10.34024/revbea.2018.v13.2544

Yasvinh V. (2020). The world of nature in Ecological Psycho-Pedagogy: view of the scientist and the poet. *Ecopoiesis: Eco-Human Theory and Practice, 1*(2), 86-88. https://cyberleninka.ru/article/n/the-world-of-nature-in-ecological-psychopedagogy-view-of-the-scientist-and-the-poet.pdf