

# BIBLIOTHERAPY AS A PSYCHO-PEDAGOGICAL TOOL FOR FOSTERING ECOLOGICAL BEHAVIOUR AND EMOTIONAL CONNECTION WITH NATURE: A CONCEPTUAL MODEL FOR REDUCING ECO-ANXIETY IN PRIMARY SCHOOL STUDENTS AND CONTRIBUTING TO THE THEORY OF UPBRINGING

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**Abstract:** The development of ecological behaviour and the management of the emotional consequences of the climate crisis among primary school pupils require an interdisciplinary approach that integrates educational, psychotherapeutic, and developmental strategies. In response to the growing manifestations of eco-anxiety in children, a psycho-pedagogical model based on bibliotherapy has been developed by Dr. Abner. The author's model, entitled "The Language of the Forest", consists of four sequential stages: recognising anxiety, establishing a connection with nature, transforming fear into engagement, and fostering reflective thinking. Each stage utilises a set of carefully selected activities designed to address specific emotional and cognitive needs. Recognising anxiety involves creating a safe space where children can articulate their fears through storytelling and metaphor. Establishing a connection with nature uses immersive literary experiences and symbolic play to build empathy towards the environment. Transforming fear into engagement employs narrative-based role-play and creative projects that empower children to envision themselves as protectors of nature. Fostering reflective thinking integrates dialogue and expressive arts to encourage internalisation of ecological values. Central to this process is the use of ecologically themed literature, which enables emotional identification, self-regulation, and the development of a sense of belonging to the natural world. A number of recent studies confirm the effectiveness of bibliotherapy in supporting children experiencing anxiety, adjustment difficulties, and eco-anxiety. The model combines reading, role-play, creative expression, and hands-on environmental care, creating a multimodal learning environment that nurtures both emotional well-being and cognitive understanding. Practical examples include the use of children's books depicting endangered ecosystems, guided imaginary journeys into forests, and collaborative projects for environmental stewardship. The model provides a safe space for sharing, processing, and transforming negative emotions while encouraging active participation and personal responsibility. The proposed framework is applicable in both formal and non-formal educational settings, including schools, libraries, and community centres, and contributes to the integration of environmental education with mental health support within contemporary pedagogy. By addressing the emotional dimension of ecological awareness, the model lays the groundwork for the formation of long-term attitudes towards sustainability, strengthens the child's capacity for resilience in the face of global environmental challenges, and fosters a sense of empowerment and agency in young learners.

**Keywords:** *Bibliotherapy, eco-anxiety, environmental education, emotional regulation, psycho-pedagogical model, nature-based learning, climate-related distress, resilience, interdisciplinary approach.*

**Field:** Pedagogy

## 1. INTRODUCTION

Eco-anxiety in children can be understood as a consequence of a disrupted connection with the natural world. Children are particularly vulnerable to this type of anxiety due to their limited capacity to comprehend and process the complex information associated with climate change. According to Pihkala, restoring this connection is essential for psychological wellbeing and mental resilience (Pihkala, 2020). In her book *Eco-Anxiety*, American environmentalist Heather White introduces a new genre of literature aimed not only at fostering sustainable thinking, but also at promoting inner restoration through self-awareness and daily acts of care for both oneself and the environment (White, 2024). Hickman and colleagues observe that young people across the globe express significant ecological concern regarding environmental degradation, which adversely impacts their mental health (Hickman, C., Marks, E., Pihkala, P., et al, 2021). Building an emotional bond with nature and developing ecological behaviour are considered key strategies for mitigating these negative emotions. Harriet Dyer highlights that reading can serve not only as an informative process but also as an experience of reassurance, connection,

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and renewal—core elements of bibliotherapeutic practice (Dyer, 2023). Bibliotherapy may thus function as a therapeutic method that uses literature to offer emotional and cognitive support in coping with eco-anxiety. Through identification with characters and narrative situations, children are enabled to process their own feelings and fears. Research by Shechtman demonstrates the effectiveness of bibliotherapy in reducing anxiety and aggression by enhancing emotional regulation in children (Shechtman, 2008). Further studies by Betzalel, Shechtman, and Rapee provide strong evidence supporting the efficacy of affective bibliotherapy for children with adjustment difficulties and anxiety disorders. Notably, such interventions have been associated with a marked reduction in emotional and behavioural symptoms (Betzalel, N & Shechtman, Z, 2010).

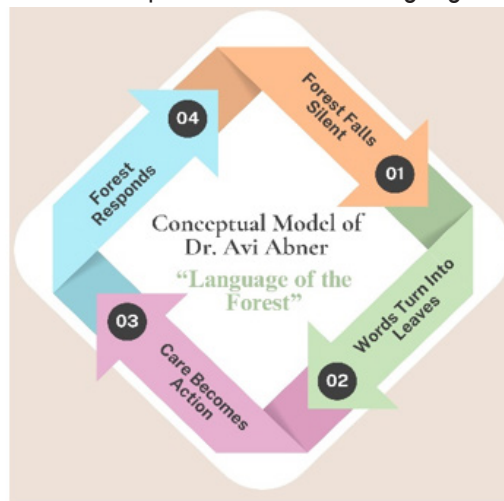
## 2. METHODS

Bibliotherapy is an established tool that has found broad application in both educational and therapeutic practice as a means of fostering emotional regulation and cognitive development. In the context of contemporary challenges related to the ecological crisis and its psychological impact on pupils, bibliotherapy acquires renewed significance as a potential response to the growing phenomenon of eco-anxiety. This study proposes an original psycho-pedagogical model, grounded in bibliotherapeutic principles, aimed at fostering ecological behaviour and developing an emotional connection with nature among primary school children. The model builds upon recent empirical research and integrates bibliotherapy with practical and creative activities designed to reduce eco-anxiety and nurture active environmental awareness. It positions literature not only as a source of knowledge, but also as a medium for emotional engagement and identity formation in relation to the natural world. Studies conducted by Caroline Hickman and her colleagues indicate that anxiety linked to environmental concerns affects a significant proportion of young people and exerts a negative influence on their daily lives (Hickman, C., Marks, E., Pihkala, P., et al, 2021). Eco-anxiety among school-aged pupils often manifests through feelings of helplessness, existential fear, and guilt associated with one's individual ecological footprint. In pedagogical practice, there is a growing demand for methods that not only inform children about environmental issues, but also engage them emotionally and provide effective strategies for coping with fear and anxiety. Bibliotherapy, as a method for addressing anxiety, has been the subject of numerous studies that confirm its effectiveness. Betzalel and Shechtman found that bibliotherapy significantly reduces anxiety in children with adjustment difficulties by enabling identification with literary characters and the experience of emotions in a safe and symbolic context. (Betzalel, N & Shechtman, Z, 2010). Further support for the need for such a psycho-pedagogical model is provided by research conducted by Léger-Goodes and her colleagues, who examined manifestations of eco-anxiety in children and their parents. The results convincingly demonstrate that even at an early age, children are aware of the implications of climate change and respond with intense emotions such as fear, sadness, guilt, and at times, anger (Léger-Goodes, T., Malboeuf-Hurtubise, K., et al , 2023). These findings reveal that ecological issues are not abstract to children; rather, they are experienced in deeply personal ways, filtered through a sense of identity and anticipation of the future. The researchers underscore the importance of targeted pedagogical approaches that provide both information and a safe environment in which children can express, understand, and process their anxious experiences.

In his book *Eco-Anxiety: Coping with Environmental Concerns in a Changing World*, Blackwood highlights that “Eco-anxiety reflects the emotional burden of witnessing the degradation of nature while feeling powerless to make a meaningful difference” (Blackwood, 2025). This perspective directly links mental health with themes of environmental justice and social responsibility. It is precisely in this context that bibliotherapy finds its relevance as a pathway through which pupils can recognise and process their emotions via engagement with literary texts, ultimately fostering inner resilience. Bibliotherapy, as developed within the original model by Dr Avi Abner “The Language of the Forest”- plays a central role in this process. This innovative psycho-pedagogical approach employs carefully selected ecologically themed literary works that enable emotional identification with characters and activate internal resources for coping with anxiety. The involvement of children in complementary creative and discussion-based activities, inspired by the literary content, facilitates the transformation of fear into engagement and the establishment of a lasting emotional bond with nature. Dr Abner's model thus contributes both to the mitigation of eco-anxiety and the formation of deeply rooted ecological awareness. In addition to emotional support, Léger-Goodes' research emphasises the need for empowerment strategies- pathways through which children come to perceive themselves as having a voice, value, and the capacity to act. (Léger-Goodes, T., Malboeuf-Hurtubise, K., et al , 2023). This aligns fully with the aims of *The Language of the Forest*, which not only fosters emotional connection to nature but also cultivates a lasting sense of

responsibility and commitment. The transition from fear to active engagement takes place within the safe framework of the bibliotherapeutic process, which unites psychological care with a profound educational effect.

Figure 1. Conceptual Model: "The Language of the Forest"



Source: Conceptual model developed by Dr. Avi Abner. All rights reserved.

**STAGE ONE: Recognising Eco-Anxiety** - This initial stage lays the foundation for identifying children's fears and concerns related to the natural environment. The educator introduces the topic through reflective questions aimed at drawing attention to the subjective emotional responses pupils experience in relation to nature. To support this process, excerpts from "Do You Hear How the Trees Speak" by Peter Wohlleben are read and discussed, with a focus on the theme of mutual support among trees (Wohlleben P. , 2023). This narrative element serves as an accessible entry point into the understanding of ecological interconnectedness. Pupils are then invited to visualise their emotions by drawing a "sad forest," offering a symbolic and non-verbal channel through which eco-anxiety can be expressed safely, without requiring direct verbalisation.

**STAGE TWO: Introduction to "The Language of the Forest"** - This phase focuses on building a positive emotional connection with nature. Literary works are employed as tools to foster a sense of attachment to the natural world. The book of Peter Wohlleben introduces children to the enchanting "language" of nature, helping them discover the interrelations between words, emotions, and their surrounding environment. To strengthen the effect of identification, pupils are invited to adopt a role- for example, a tree, an animal, or a natural phenomenon and to re-enact a scene in which these elements interact, reflecting the ecological mechanisms described in the book. This process enables children to perceive nature not merely as a backdrop to human activity, but as an active participant in their world.

**STAGE THREE: From Experience to Transformation** - In this stage, pupils transition from passive experience to active transformation- realising the profound educational potential of bibliotherapy and psychodrama as a unified psycho-pedagogical framework. Alongside reading, children engage in role-play activities, adopting the personas of "forest healers"- characters who devise and carry out the restoration of a threatened ecosystem. Within this dramatisation, the feeling of helplessness is transformed: the fear of loss gives way to a sense of agency and potential for change. A symbolic yet tangible act is introduced- each child plants an avocado seed, conveying a message of patient growth, resilience, and care. The choice of the avocado is deliberate: it is a plant that demands time, consistency, and attention to germinate. Through this process, children come to understand that meaningful change whether in nature or in human relationships requires responsibility, time, and love. The act of planting becomes a personal vow: the child recognises that even the smallest gesture can have lasting impact. Thus, the third stage fulfils its core educational aim to transform anxiety into action, fear into commitment, and detachment into empathy. Nature is once again perceived not as a threat, but as an ally; and the child, no longer a passive observer, becomes an active participant in its renewal.

**STAGE FOUR: Reflection** - In the final stage, pupils reflect on what they have learned and consolidate their emotional connection with nature. This process involves a group discussion centred on their experiences throughout the activities, as well as a form of creative expression such as producing a collage or composing a letter that the forest might send to humanity. The inclusion of Peter Wohlleben's

second book, „The Hidden Life of Trees“, offers an additional reflective layer, guiding children to perceive the human–nature relationship as one of mutual dependence and balance (Wohlleben P. , 2017). Through reading and discussion, they are encouraged to move beyond abstract understanding and toward a deeper emotional awareness of the interconnectedness between all living systems. By this stage, eco-anxiety is not only reduced, but transformed into insight, emotional clarity, and lasting ecological empathy.

The implementation of the “Language of the Forest” model in both formal and non-formal educational settings demonstrates notable psychological and pedagogical benefits. According to Maria Ojala, participation in structured environmental activities significantly reduces anxiety in children, while simultaneously enhancing their resilience and critical thinking skills in relation to ecological challenges (Ojala, 2011). The anticipated outcomes of applying this method include a decrease in eco-anxiety, increased emotional stability, and the development of ecological awareness. The integration of bibliotherapy with play-based and practical activities fosters long-term attitudes towards environmental stewardship and cultivates a sense of belonging to the natural world. This model offers an innovative and evidence-based approach for addressing rising levels of anxiety among children, while also promoting the formation of sustainable environmental values. Its incorporation into educational practice has the potential to contribute meaningfully to the development of a more responsible and environmentally engaged generation.

Figure 2. Operational Process



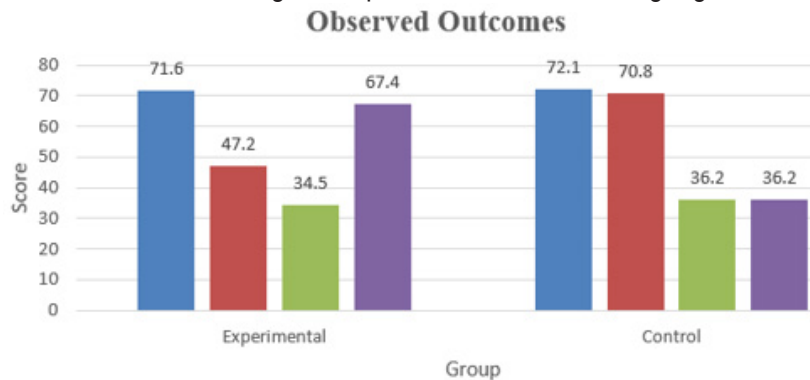
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### 3. RESULTS

To assess the impact of the bibliotherapeutic model The Language of the Forest, a controlled pedagogical study was conducted with 80 pupils aged 8–10 from four primary school classes. Participants were divided into an experimental group (3B and 4B) and a control group (3A and 4A), each comprising 20 pupils. The intervention included six bibliotherapy sessions integrating eco-themed literature, symbolic action, and creative engagement. Baseline measures indicated high eco-anxiety levels in both groups (Experimental:  $M = 71.6$ ,  $SD = 4.8$ ; Control:  $M = 72.1$ ,  $SD = 5.0$ ) and low perceived efficacy (Experimental:  $M = 34.5$ ,  $SD = 3.9$ ; Control:  $M = 36.2$ ,  $SD = 4.0$ ). Post-intervention, the experimental group exhibited a significant decrease in eco-anxiety ( $M = 47.2$ ,  $SD = 4.1$ ) and a marked increase in efficacy ( $M = 67.4$ ,  $SD = 4.2$ ). The control group showed minimal change. Statistical analysis confirmed the significance of these results ( $t(39) = 8.94$ ,  $p < 0.001$  for eco-anxiety;  $t(39) = 9.88$ ,  $p < 0.001$  for efficacy). Qualitative observations revealed a shift from passive concern to proactive environmental empathy among the experimental group, supporting the effectiveness of bibliotherapy in early education contexts.

The collected data provide clear evidence of differences between the experimental and control groups. Quantitative results showed significant reductions in eco-anxiety and notable increases in perceived efficacy among pupils participating in the bibliotherapeutic sessions. These outcomes were corroborated by qualitative observations, which indicated a transition from passive environmental concern to more active and empathetic attitudes within the experimental group.

Figure 3. Outcomes Following the Implementation of the “Language of the Forest” Model



Source: Designed and developed by Dr. Avi Abner. All rights reserved.

#### 4. DISCUSSIONS

The results of the study show that the bibliotherapeutic model The Language of the Forest is an effective method for reducing eco-anxiety and increasing the sense of personal ability among primary school pupils. The study adds important knowledge to the field of pedagogy by demonstrating that addressing emotional reactions to the climate crisis in a structured educational way is essential. Traditional environmental education often focuses only on facts and problems, without offering children tools to manage the strong emotions that these issues create. The Language of the Forest fills this gap by helping pupils first recognise and name their eco-anxiety, and then transform it into positive feelings of care, responsibility, and connection with nature. The observed shift from passive fear to active engagement suggests that when children are given emotional support and creative opportunities, they can develop a stronger and healthier relationship with environmental issues. Rather than feeling overwhelmed and helpless, the pupils learned to see themselves as part of the solution, which is critical for their psychological resilience and their future environmental attitudes. The study also shows that bibliotherapy, a method traditionally used in therapeutic settings, can be successfully adapted for use in everyday educational practice. Using stories, creative activities, and discussion helped pupils not only understand their emotions but also express them safely and find positive ways to act. Overall, the results demonstrate that The Language of the Forest is a valuable pedagogical tool. It supports emotional growth, reduces fear, and encourages positive action in the face of the climate crisis. This approach can be an important part of modern educational strategies aimed at preparing children not only intellectually but also emotionally for the challenges of the future.

#### 5. CONCLUSION

The study confirms the effectiveness of the bibliotherapeutic model The Language of the Forest in supporting the emotional development of primary school pupils within the framework of environmental education. By guiding pupils through structured literary experiences, symbolic activities, and creative expression, the model successfully reduced feelings of eco-anxiety and strengthened their sense of personal responsibility, efficacy, and emotional resilience. The notable changes observed among the participants underline the critical need to address the emotional dimensions of environmental issues early in the educational process, when children’s attitudes and coping mechanisms are still forming. These findings emphasise that education aimed at sustainability must move beyond the mere transmission of information and actively nurture the emotional capacities that enable young learners to engage meaningfully and constructively with the pressing challenges of the contemporary world. Knowledge alone, without emotional grounding, risks leaving pupils overwhelmed or paralysed in the face of global environmental crises. By contrast, the approach developed in this study demonstrates that carefully designed pedagogical methods can cultivate both cognitive understanding and emotional maturity, equipping children to act with confidence, care, and hope.

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